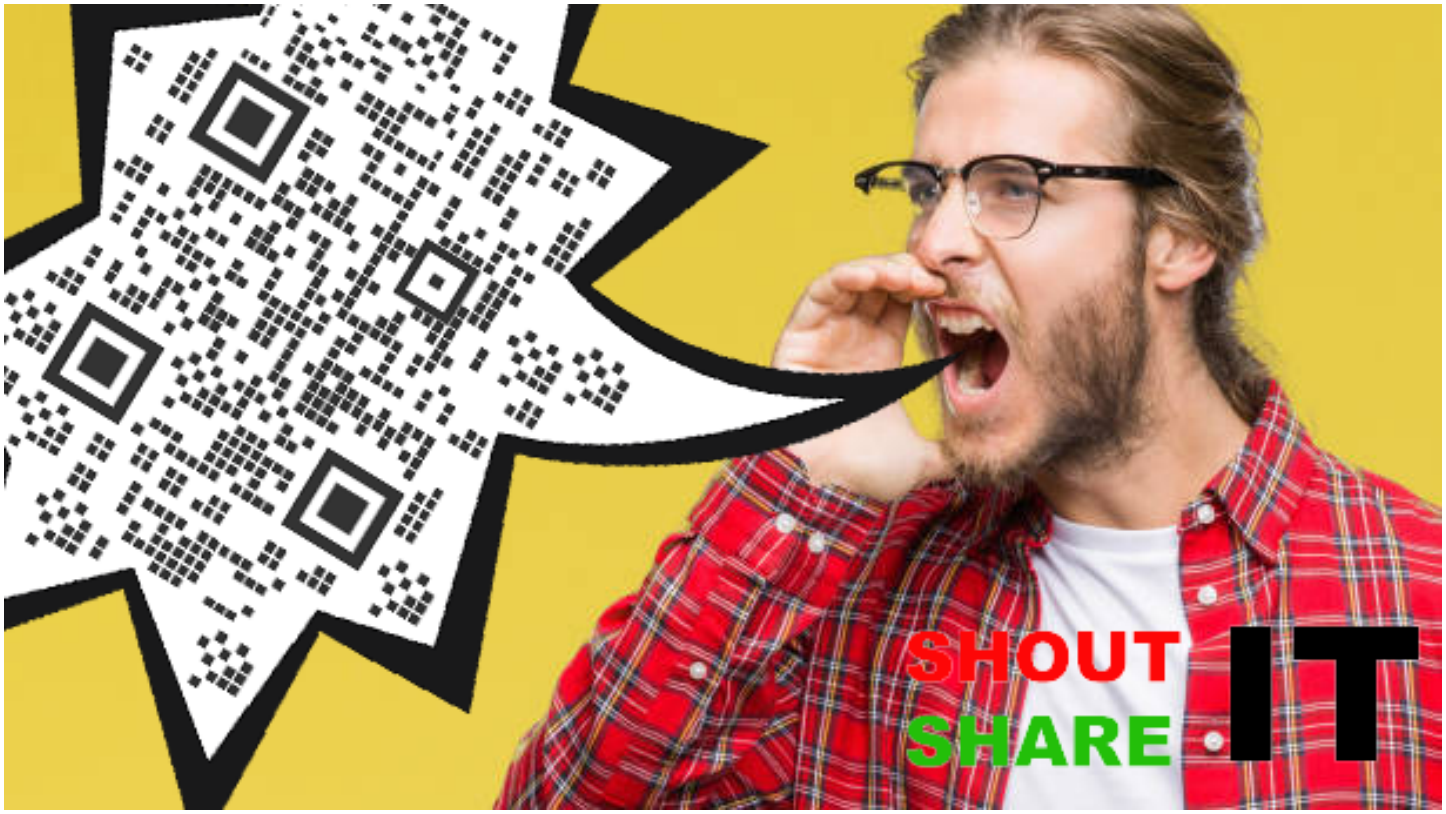
580.5
FB
v.4:2-9
1919-1929
cop.2


SHOUT
SHARE
IT

No. 8

FIELD MUSEUM OF NATURAL HISTORY
FOUNDED BY MARSHALL FIELD, 1893

PUBLICATION 264

BOTANICAL SERIES VOL. IV, No. 8

STUDIES OF AMERICAN PLANTS—I

BY PAUL C. STANDLEY
Associate Curator of the Herbarium, Department of Botany

STUDIES OF AMERICAN PLANTS—II

BY PAUL C. STANDLEY
Associate Curator of the Herbarium, Department of Botany

B. E. DAHLGREN
Acting Curator, Department of Botany
EDITOR

CHICAGO, U. S. A.
October 24, 1929

FIELD MUSEUM OF NATURAL HISTORY

NDL . MARSH 1893

PUBLICATION 264

BOTANICAL SERIES VOL. IV, No. 8

STUDIES OF AMERICAN PLANTS—I

BY PAUL C. STANDLEY

Associate Curator of the Herbarium, Department of Botany

STUDIES OF AMERICAN PLANTS—II

BY PAUL C. STANDLEY

Associate Curator of the Herbarium, Department of Botany

B. E. DAHLGREN

Acting Curator, Department of Botany

EDITOR

CHICAGO, U. S. A.

October 24, 1929

PRINTED IN THE UNITED STATES OF AMERICA
BY FIELD MUSEUM PRESS

Cop. 2
V. 4
No. 8

STUDIES OF AMERICAN PLANTS—I

Paul C. Standley

The following pages are occupied primarily with descriptions of new species of Mexican and Central American plants, recognized in collections received for determination, chiefly from Prof. Samuel J. Record of the School of Forestry, Yale University, and Associate in Wood Technology in Field Museum.

The most important of these collections is one made by Mr. G. Proctor Cooper in the winter of 1927-28 in the general region of Almirante, Panama. Mr. Cooper collected a few numbers, also, about Permé, on the San Blas Coast of Panama. His collection is the most interesting that the writer ever has received for study. It consists chiefly of trees, the plants most difficult to collect, and the ones which receive least attention from most collectors. It is not surprising, therefore, that the Cooper collection should contain so large a number of undescribed species, especially since it comes from localities in which little or no botanical work had been done previously. It contains representatives of one family and of several genera unknown previously from Central America, and of two genera which appear to be undescribed.

This Panama collection emphasizes the remarkable wealth of the Panama flora, and proves that it still needs further exploration. A few of the Cooper collections, although in fairly good condition, still baffle determination, and evidently represent plants of great interest. The value of the collection is enhanced by the fact that wood was obtained from many of the trees. The Panama Expedition was organized by the School of Forestry of Yale University, and also supported by the New York Botanical Garden and Field Museum. A set of the specimens is deposited in each of these institutions, and duplicates have been distributed to other herbaria.

Another important Central American collection received through Professor Record is one consisting of several hundred numbers made on the eastern coast of Nicaragua in the region of Bragman's Bluff by F. C. Englesing. Nicaragua is at present perhaps the least known botanically of the Central American countries, and no collections, at least none of any considerable size, have ever been made near the Atlantic coast, except along the San Juan River.

Mr. Englesing's series is too small to give a comprehensive idea of the flora of the region, but in general it indicates, as would be expected, a flora similar to that of the northern coast of Honduras.

It includes a substantial number of interesting new species, some of which already have been published by the writer in *Tropical Woods*.

The value of Mr. Englesing's specimens is increased by the copious notes which accompany many of them. These include information regarding habitat, vernacular names, associated plants, size, color descriptions, and economic data. If all collectors would supply similar data, botanical knowledge would advance rapidly.

In the United States, especially, too little attention is given to supplying data with botanical specimens. Our herbaria are cluttered with inferior specimens which bear no other data than locality and date of collection. The larger herbaria have such vast quantities of United States material that they are obliged to cull critically new collections and discard specimens of the more common species. I have myself filled many waste baskets with such specimens, which were not useful even for exchange purposes. If these same specimens had been accompanied by full descriptive data, it is almost certain that they would have received a permanent place in the herbarium.

Most collectors of our United States flora seem to believe that the species are so well known that descriptive notes would be superfluous, but this is far from being true. Search in the herbarium for notes regarding the color of flowers of *Geranium maculatum* or any other common plant, and you will be surprised at the lack of informative data.

Certain old-fashioned closet botanists of the writer's acquaintance look upon such notes, particularly those regarding vernacular names and economic data, with mild amusement, as representing a personal fancy of the collector, but there is no question that such data are of far more value and interest to the botanical world in general than the number of stamens in a *Crataegus* flower or millimetric variations in pappus length.

In the present paper there are described numerous new species contained in a large collection of plants made by Mrs. Ynes Mexia in the states of Jalisco and Nayarit, Mexico. This is one of the most important and valuable series obtained in Mexico in recent years. It comes from localites previously unexplored, for Mrs. Mexia did not confine her activities to the usual fields along railway lines. Most of the species based upon her collections are strikingly distinct. Dr. S. F. Blake already has described several new Compositae from the same collection, and Dr. B. L. Robinson has dedicated to Mrs. Mexia a genus of the same family, *Mexianthus*.

Besides the descriptions of new species, there are included here new nomenclatorial combinations which are necessary under the International Rules. Most of these are made for the purpose of bringing the nomenclature of the Trees and Shrubs of Mexico (volume 23 of the Contributions from U. S. National Herbarium) into conformity with those rules.

Unless otherwise indicated, all the specimens listed on the following pages are in the herbarium of Field Museum of Natural History.

CYPERACEAE

Kyllinga nudiceps C. B. Clarke in herb., sp. nov.—Plantae e rhizomatibus brevibus, horizontalibus vel adscendentibus erectae; culmi graciles, erecti, 20-50 cm. longi, vix 1 mm. crassi, glabri; folia omnia ad vaginas reducta, vaginis purpurascentibus, ad 7 cm. longis, ferrugineo-punctulatis, apice obliquis; flores capitati, capite solitario, ebracteato, subgloboso, 5-6 mm. diam.; gluma nucigera navicularis, ovata, acuta, brunneo-punctulata, carina laevi.—Costa Rica: Wafer Bay, Cocos Island, January, 1902, *H. Pittier 16272* (U. S. Nat. Herb. No. 472,463, type). Cocos Island, *Snodgrass & Heller 944*.

The species is well marked by the absence of bracts at the base of the inflorescence.

AMARYLLIDACEAE

Zephyranthes brevipes (Baker) Standl., sp. nov. *Zephyranthes carinata* var. *brevipes* Baker; Donn. Smith, Enum. Pl. Guat. 3: 80. 1893, nomen nudum.

Bulbus c. 2 cm. diam., longicollis; folia scapum aequantia, 1.5-5 mm. lata, glabra; scapus gracilis, 6-25 cm. longus; spatha membranacea, 2 cm. longa, valvis longiattenuatis; ovarii stipes 3-5 mm. longus; perianthium roseum, 7 cm. longum, segmentis oblanceolatis, 1 cm. latis vel angustioribus, obtusis, tubo 2 cm. longo.—Guatemala: Santa Cruz, Dept. Alta Verapaz, alt. 1,380 m., April, 1889, *J. D. Smith 1671* (U. S. Nat. Herb. No. 932,985, type).

There are referred here also *J. D. Smith 2793*, *Deam 6253*, and *Tuerckheim 44* and *II. 1417* from Guatemala. The vernacular name is "flor de Mayo." Some of the specimens have been determined as *Z. sessilis* Herb. In *Z. carinata* (Spreng.) Herb., from which this is segregated, the stipe of the ovary is over 1 cm. long.

IRIDACEAE

Nemastylis Lehmannii Standl., sp. nov.—Bulbus parvus, angustus, brunneus; folia basalia 2-3, ad 9 cm. longa, 3 mm. lata, plicata, basi late vaginantia, vaginis brunneo-maculatis; scapus 1-3.5 cm. altus; spatha solitaria, 2-3-flora, c. 3 cm. longa, basi bractea foliacea fulcrata, valvis tenuibus, brunneo-maculatis; perianthium 2 cm. longum, segmentis ovatis; antherae 6-7 mm. longae, plerumque columna staminali breviores.—Guatemala: Between the volcanoes

of Tajumulco and Tajaná, alt. 3,600 m., *F. C. Lehmann 1556* (U. S. Nat. Herb. No. 933,773, type). Los Encuentros, Dept. Sololá, alt. 2,850 m., *Shannon 3666*.

Nemastylis tenuis (Baker) Benth. & Hook., which also grows in Guatemala, has 1-flowered spathes, and scapes usually more than 10 cm. long.

Eleutherine guatemalensis Standl., sp. nov.—Bulbus c. 3.5 cm. longus, brunneus; folia basalia 2-3, petiolata, 30-70 cm. longa, 1-1.5 cm. lata, glabra, longe attenuata, 3-nervia, plicata, erecta; scapi 40-70 cm. alti, graciles, subteretes, glabri, bractea foliis simili sed angustiore; spathae plerumque 2-3, 4.5-6.5 cm. longae, subaequales, multinerviae, pedunculis 8-20 cm. longis; perianthium album, post anthesin caerulescens, 3 cm. latum vel angustius; capsulae 1 cm. longae vel longiores.—Guatemala: Cobán, alt. 1,350 m., June, 1907, *H. von Tuerckheim II. 1885* (U. S. Nat. Herb. No. 933,801, type). Salamá, *Cook & Doyle 221*. Santa Rosa, *von Tuerckheim 1431*. Cobán, *von Tuerckheim 3775*.

The only other Central American species, *E. bulbosa* (Mill.) Urban, has spathes 2 cm. long or shorter.

LACISTEMACEAE

Lacistema pedicellatum Standl. Journ. Washington Acad. Sci. 17: 8. 1927.

An extension of range for this species is furnished by *Cooper 568* (Yale No. 12,201), from Flat Rock, region of Almirante, Panama. The specimens were taken from a tree 6 m. high, with a trunk 5 cm. in diameter.

CHLORANTHACEAE

Hedyosmum scaberrimum Standl., sp. nov.—Arbor dioica, ramulis gracilibus, internodiis 2-7 cm. longis, punctulis pallidis plus minusve asperulis; vaginae stipulares 6-12 mm. longae, supra dilatatae, asperulae; petioli 4-8 mm. longi, asperuli, remote ciliolati; limbus lanceolato-oblongus vel oblongo-oblanceolatus, 10.5-15.5 cm. longus, 3-4.5 cm. latus, abrupte longiacuminatus, acumine acuto, basi attenuatus, in toto margine serrulatus, chartaceus, subtus pallidior, utrinque punctulis creberrimis albidulis scaberrimus; cymulae femineae racemoso-paniculatae, paniculis terminalibus et lateralibus, 6-7 cm. longis, rhachi glabra, cymularum pedunculis 1-2 mm. longis, incrassatis, glabris, cymulis 3 mm. latis, bracteis alte connatis, drupas subaequantibus, parte libera late oblonga, apice subtruncata vel late rotundata; drupae 3 mm. longae, obtuse

trigonae, glabrae, apice perigonio persistente coronatae.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 595*; Yale No. 12,228 (Herb. Field Mus. No. 579,611, type).

A tree of 6 m., the trunk 5 cm. in diameter. Flowers white. The pith has a jellylike secretion

Only two other species of *Hedyosmum* have been known from Central America, and they grow usually at much higher elevations than this Panama tree. *H. scaberrimum* is related to *H. calloso-serratum* Oerst., of the Costa Rican and Nicaraguan mountains, but that has sessile cymules and smooth leaves.

MORACEAE

Perebea glabrata Standl., sp. nov.—Arbor mediocris, ramulis c. 7 mm. crassis, subteretibus, brunneis, minute strigillosis, parce elevato-lenticellatis, internodiis 2-6 cm. longis; stipulae non visae, deciduae; petioli crassi, 9-13 mm. longi, sparse strigillosi; limbus ovali-oblongus, 21-32 cm. longus, 9-12 cm. latus, apice obtusus vel rotundatus et caudato-cuspidatus, acumine e basi deltoidea lineari, 1.5-2 cm. longo, basi late rotundatus vel brevissime cordatus, integer, subcoriaceus, supra obscure viridis, ad nervos non elevatos sparse et minute pilosulus vel glabratus, subtus brunnescens, asperulus, ad nervos minutissime scaberulus, nervis lateralibus prominentibus, utroque latere c. 21, arcuatis, divaricatis, prope marginem laxe anastomosantibus; inflorescentiae femineae axillares, solitariae vel geminatae, brevipedunculatae, 1.2-2 cm. diam., pluriflorae, bracteis dense imbricatis, late ovatis, acutis, adpressis, superne sericeis; perigonium 6 mm. longum, versus basin angustatum, breviter pilosulum, apice abrupte contractum et rotundatum, ore minuto, 4-denticulato, styli ramis brevissimis, exsertis.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 634*; Yale No. 12,267 (Herb. Field Mus. No. 579,239, type).

According to the collector's notes, this is a tree of 9 m., with a trunk diameter of 10 cm., the flowers yellow, the bark with creamy but not very sticky sap.

Two other species of *Perebea* have been described from Central America, both from Panama. The one more nearly related to *P. glabrata* is *P. Markhamiana* (J. Collins) Benth., but in that the leaves are serrate-dentate, and glabrous beneath.

Ficus Proctor-Cooperi Standl., sp. nov.—Arbor alta, ramulis crassis, glabris, dense foliatis; stipulae ovato-oblongae, 1.5 cm. longae, acuminatae, brunneae, deciduae, extus minute sericeae vel glabratae; limbus elliptico-obovatus, 17.5-18.5 cm. longus, 9.5-10.5

cm. latus, apice late rotundatus, basi obtusus vel acutus, subcoriaceus, glaber, nervis supra prominulis, subtus prominentibus, lateralibus utroque latere c. 11, angulo lato divergentibus, tenuibus, leviter curvatis, prope marginem laxe anastomosantibus; receptacula subsessilia, pedunculo 3 mm. non superante, globosa, 1.5-2 cm. diam., dense albido-sericea, apice late rotundata, ostiolo parum elevato; involucrum profunde bilobatum, 1.5 cm. longum, lobis ovatis, apice rotundatis, rigidis, obscure brunneis, dense et minutissime puberulis. —Panama: Permé, San Blas Coast, April 3-10, 1928, *G. Proctor Cooper 641*; Yale No. 12,274 (Herb. Field Mus. No. 579,226, type).

A tree 15-18 m. high, with a trunk diameter of 60 cm., the buttresses high and narrow.

Related to *F. involuta* (Liebm.) Miq., which has relatively narrower leaves, with fewer lateral nerves.

Ficus Lehmannii Standl., sp. nov.—Ramuli validi, 5-6 mm. crassi, glabri, ochracei vel brunnescentes, internodiis brevissimis; stipulae 16 mm. longae, anguste triangulares, longiattenuatae, deciduae, brunneae, crassae, glabrae; petioli 8-14 mm. longi, crassi, supra sulcati, glabri; limbus obovatus vel obovato-oblongus, 5-10 cm. longus, 3-4.5 cm. latus, apice obtusus vel subrotundatus et obtuse breviterque protractus vel breviacuminatus, acumine acuto vel obtuso, crasse coriaceus, integer, glaber, concolor, costa et nervis utrinque prominentibus, nervulis arcte reticulatis, costa gracili, nervis lateralibus utroque latere c. 12, angulo lato divergentibus, fere rectis, prope marginem aequaliter conjunctis; receptacula geminata, sesilia, depresso-globosa, 6 mm. lata, apice subtruncata, minutissime puberula, ostiolo paullo depresso; involucrum asymmetricum, breviter bilobatum, 4 mm. longum, glabrum, lobis late rotundatis.—Colombia or Ecuador: Without definite locality, *F. C. Lehmann 5607* (U. S. Nat. Herb. No. 933,492, type).

A well-marked species, notable for the thick leaves with elevated venation, and for the sessile depressed receptacles with asymmetric involucre.

LORANTHACEAE

Struthanthus costaricensis Standl., sp. nov.—Suffrutex parasiticus, omnino glaber, ramis subteretibus, elongatis, scandentibus vel pendulis; petioli validi, 8-15 mm. longi; limbus ellipticus vel late ellipticus, 5.5-10 cm. longus, 3.5-6.5 cm. latus, acutus vel abrupte acuminatus, rarius obtusus, basi acutus vel abrupte decurrens, coriaceus, nervis lateralibus utroque latere 5-6, prominulis, tenuissimis; spicae plerumque foliis duplo breviores, floribus et cymis sessilibus; floris staminalis perianthium 3-4 mm. longum; bracteae caducae; stylus rectus.—Costa Rica: Forests of Tuis, alt. 650 m., November, 1897, *A. Tonduz 11458* (U. S. Nat. Herb. No. 577,444, type).

In the related *S. polystachyus* (Ruiz & Pav.) Blume, which occurs in Panama, the leaves are lance-oblong, and rounded at base.

POLYGONACEAE

Coccoloba reflexiflora Standl., sp. nov.—Arbor, ramulis crassiusculis, subteretibus, vetustioribus griseis, lenticellatis, rimosis, novellis glaucescentibus, sulcatis, glabris, internodiis 1.2-2 cm. longis; ocreae 4-12 mm. longae, 4-6 mm. latae, subadpressae, limbo deciduo; petioli crassi, 2.5-5 mm. longi, subteretes, glauci, minute puberuli vel glabrati; limbus oblongo-obovatus, 5.5-8.5 cm. longus, 2.3-4.8 cm. latus, apice rotundatus, rarius brevissime protractus, basin versus angustatus, basi ipsa obtusa vel anguste rotundata, coriaceus, griseo-viridis, concolor, supra glaber, costa et nervis elevatis, nervulis densissime prominulo-reticulatis, subtus ad costam breviter barbatus, costa gracili, elevata, nervis lateralibus utroque latere 4-5, gracilibus. elevatis, angulo acuto adscendentibus, leviter curvatis, prope marginem conjunctis, nervulis arcte reticulatis; racemi breviter pedunculati, solitarii, 8-12 cm. longi, laxe multiflori, rhachi minutissime puberula; ocreolae minutae, 0.4 mm. longae; pedicelli 1-1.5 mm. longi, subreflexi, glabri; perianthium 2 mm. longum, glabrum, basi abrupte in stipitem 1 mm. longum contractum, sepalis obtusis.—British Honduras: Tower Hill, 1928, *J. S. Karling 15* (Herb. Field Mus. No. 579,926, type).

Coccoloba reflexiflora closely resembles the common Central American *C. floribunda* (Benth.) Lindau. In the latter the pedicels are shorter than the ocreolae.

CHENOPODIACEAE

Suaeda Fernaldii Standl., comb. nov. *Dondia Fernaldii* Standl. N. Amer. Fl. 21: 88. 1916.

Suaeda mexicana Standl., comb. nov. *Dondia mexicana* Standl. N. Amer. Fl. 21: 89. 1916.

Atriplex semibaccata R. Br.—This Australian species, so widely naturalized in the southwestern United States, may now be reported from Mexico. It was collected at Saltillo, Coahuila, in 1928 by C. F. Henderson. The specimens are in the herbarium of Field Museum.

NYCTAGINACEAE

Neea urophylla Standl., sp. nov.—Frutex vel arbor parva, 3-6 m. alta, trunco 2.5-5 cm. diam., ramulis crassis, novellis obscure ferrugineo-tomentulosis; folia ternata, petiolis 1.5-4 cm. longis, supra late canaliculatis, glabratis; limbus ellipticus, late ellipticus, vel oblongo-ellipticus, 28-33 cm. longus, 12-18 cm. latus, apice rotundatus

et abrupte caudato-cuspidatus, acumine e basi deltoidea lineari, attenuato, 2-3 cm. longo, basi obtusus vel acutus, interdum abrupte contractus, papyraceus, fere concolor, supra glaber, nervis prominulis, subtus ad nervos parce puberulus, nervis elevatis, lateralibus utroque latere c. 10, adscendentibus vel divaricatis, arcuatis, prope marginem laxe anastomosantibus; flores feminei cymoso-paniculati, paniculis 2-3 cm. longis et latis, multifloris, pedunculo 1 cm. longo, ferrugineo-puberulo, floribus sessilibus, bracteis lanceolato-oblongis, attenuatis, 1.5 mm. longis; perianthium elliptico-oblongum, 4 mm. longum, parce et minutissime puberulum vel glabratum, ore contracto, minute denticulato, stylo non exserto.—Panama: Daytonia Farm, region of Almirante, 1928, *G. P. Cooper 373* (Herb. Field Mus. No. 579,580, type), *545*.

Flowers reddish brown. Related to *N. Pittieri* Standl., of Costa Rica and Panama, but in that species the pistillate perianth is 7-8 mm. long.

Neea laetevirens Standl., sp. nov.—Frutex altus vel arbor parva, ramulis gracilibus, parce ferrugineo-puberulis, internodiis 3-4.5 cm. longis; folia ternata vel opposita, petiolis 1-2 cm. longis, minute puberulis vel glabratis; limbus oblongus, elliptico-oblongus, vel obovato-oblongus, saepius supra medium latissimus, apice subabrupte acuminatus vel rarius obtusus vel rotundatus et apiculatus, basin versus attenuatus, basi ipsa acuta vel acuminata et saepe obliqua, tenuissimus, in statu sicco laete viridis, untrinque glaber, subtus paullo pallidior, nervis lateralibus utroque latere c. 10, gracillimis, inconspicuis, subtus vix elevatis, prope marginem laxe conjunctis; flores feminei cymoso-paniculati, paniculis multifloris, 5 cm. longis, 7 cm. latis, pedunculo gracili, 4-5.5 cm. longo, ramis primariis 2 cm. longis, puberulis, gracillimis, floribus sessilibus vel pedicellatis, pedicellis ad 2 mm. longis, bracteis lineari-oblongis, 1-1.5 mm. longis; perianthium tubulosum, 2.5-3 mm. longum, parce ferrugineo-puberulum, ore breviter dentato, stylo non exserto.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 639* (Herb. Field Mus. No. 579,225, type).

Inflorescences pendulous; flowers creamy white, washed with red at the tip.

A well-marked species, distinguished by the light green, short petioled leaves, very slender inflorescences, and small flowers.

Oxybaphus suffruticosus Standl., comb. nov. *Allionia suffruticosa* Standl. Contr. U. S. Nat. Herb. 13: 408. 1911.

Oxybaphus longipes Standl., comb. nov. *Allionia longipes* Standl. N. Amer. Fl. 21: 229. 1918.

BERBERIDACEAE

Mahonia longipes Standl., comb. nov. *Odostemon longipes* Standl. Proc. Biol. Soc. Washington 31: 133. 1918.

Mahonia quinquefolia Standl., comb. nov. *Odostemon quinquefolius* Standl. Proc. Biol. Soc. Washington 31: 133. 1918.

ANNONACEAE

Stenanona Standl., gen. nov.—Arbores parvae, ramulis gracilibus, hirsutis; folia brevipetiolata, membranacea, acuminata; flores axillares, solitarii, brevipedicellati; calyx tripartitus, sepalis ovatis, caudato-acuminatis, extus pilosis; petala 6, subaequalia, biseriata, exterioribus in alabastro imbricatis, eximie elongata, anguste linearia; stamina indefinita, claviformia; fructus paucicarpellatus, carpellis sessilibus, subglobosis.

Type species, *Stenanona panamensis* Standl.

Stenanona panamensis Standl., sp. nov.—Arbor 6-metralis, trunco 7.5 cm. diam., ramulis teretibus, dense hirsutis, pilis 1.5-2 mm. longis, fulvis, patentibus, internodiis 1-4 cm. longis; petioli 2-4 mm. longi, hirsuti; limbus oblongus vel obovato-oblongus, 8-18 cm. longus, 2.8-6.5 cm. latus, apice abrupte longiacuminatus, acumine 1-1.8 cm. longo, acuto, basin versus sensim angustatus, basi ipsa rotundata vel leviter cordata, supra viridis, sparse hirsutus, costa impressa, subtus vix pallidior, pilis fulvis patentibus hirsutus, costa gracili, elevata, nervis lateralibus utroque latere c. 12, angulo acuto adscendentibus, leviter arcuatis, prope marginem laxe conjunctis; flores axillares, solitarii, brevipedicellati, pedicellis ad 5 mm. longis; sepala ovata, abrupte longiacuminata, 15 mm. longa, basi 5 mm. lata, pilis patentibus fasciculatis extus breviter hirsuta; petala 7 cm. longa, apice 0.6 mm. lata, versus basin sensim dilatata, basi ipsa 5 mm. lata, carnosa, rubescentia, statu juvenili molliter pilosula, evoluta sparse et minute pilosula; carpellum fertile 1, ceteris abortivis; bacca subglobosa, 12 mm. diam., sessilis, apice rotundata, sparse strigillosa.—Panama: Daytonia Farm, region of Almirante, 1928, *G. P. Cooper 427* (Herb. Field Mus. Nos. 579,548, 579,549, type).

The proposed genus is related, apparently, to *Sapranthus*, but from that, as well as from other American genera of Annonaceae, it differs in the remarkably elongate and narrow petals. The description of the recently published *Diclinanona* Diels[1] suggests a similar plant, but in that the flowers are unisexual and much smaller, and the petals valvate.

When the buds of Stenanona first open the petals are only 1 cm. long, but they gradually increase in length.

[1]Notizbl. Bot. Gart. Berlin 10: 174. 1928.

Sapranthus stenopetalus (Donn. Smith) Safford, comb. nov. in herb. *Porcelia stenopetala* Donn. Smith, Bot. Gaz. 40: 1. 1905.

Guatteria aeruginosa Standl., sp. nov.—Arbor 15-metralis, trunco 45 cm. diam., ramulis crassiusculis, teretibus, dense et breviter ferrugineo-pilosis, internodiis 1.5-2 cm. longis; petioli crassi, vix 2 mm. longi, tomentosi; limbus anguste oblongus vel oblanceolato-oblongus, plerumque supra medium latior, 12.5-16 cm. longus, 4-5.5 cm. latus, abrupte et breviter acuminatus, rarius cuspidato-acuminatus, acumine obtusiusculo, basi obtusus, tenuiter coriaceus, supra puncticulatus, ad costam ferrugineo-pilosus, subtus paullo pallidior, praecipue ad nervos breviter ferrugineo-pilosus, nervis lateralibus utroque latere c. 18, gracillimis, prominulis, fere rectis, prope marginem laxe conjunctis; flores axillares, pedunculis unifloris, crassis, 5 mm. longis, pedicellis 13-18 mm. longis, dense breviterque pilosis; sepala rotundato-ovata, 5 mm. longa, 4 mm. lata, apice obtusa vel rotundata et apiculata, crassa, utrinque sericea; petala exteriora leviter imbricata, late ovata vel elliptica, 8 mm. longa, 5-6 mm. lata, obtusa, crassa, utrinque dense sericea, petalis interioribus brevioribus latioribusque; baccae numerosae, longistipitatae, anguste ellipsoideae, 10-12 mm. longae, 3 mm. crassae, apice et basi acutae, fere glabrae, stipitibus 8 mm. longis, glabratis.—Panama: Cricamola Valley, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 526* (Herb. Field Mus. No. 579,209, type), *526a*.

Vernacular name, "malagueto." A tree with much fluted bole and narrow buttresses. Petals creamy, thick and brittle.

This species may be recognized readily by the narrow leaves, small flowers, and abundant ferruginous pubescence.

Guatteria Slateri Standl., sp. nov.—Arbor mediocris, ad 11 m. alta, ramulis gracilibus, teretibus, parce sericeis vel glabratis, internodiis 1.5-3 cm. longis; petioli 1-1.5 cm. longi, graciles, supra profunde canaliculati, glabrati; limbus ellipticus, 14-21 cm. longus, 6-8.5 cm. latus, apice abrupte longiacuminatus, acumine c. 2 cm. longo attenuato, obtuso, basi obtusus, crasse chartaceus, supra obscure viridis, nitidulus, glaber, nervis vix prominulis, subtus pallidior, brunnescens, statu juvenili cinereo-sericeus, mox glabratus, nervis lateralibus utroque latere c. 23, prominentibus, leviter arcutis, prope marginem aequaliter conjunctis; flores axillares, pedunculis unifloris, 5 mm. longis, pedicellis crassis, 1 cm. longis, minute sericeis; sepala rotundato-ovata, apice rotundata, 4 mm. longa et lata; petala exteriora leviter imbricata, late ovata, 8 mm. longa et fere aequilata, apice rotundata, concava, utrinque dense cinereo-sericea, petalis interioribus similibus sed minoribus; stamina numerosa, dense congesta.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 177;* Yale No. 10,530 (Herb. Field Mus. No. 573,080, type).

Vernacular name, "malagueto prieto." The wood is coarse and stringy, in color light yellow-tan. It is used in the construction of native houses, but is not very durable.

From *Guatteria amplifolia* Triana & Planch., which is common in some parts of Panama, this tree differs in its relatively broader leaves and small flowers.

Guatteria hypoglauca Standl., sp. nov.—Arbor 9-metralis, omnino glabra, trunco 7.5 cm. diam., ramulis gracilibus, internodiis 2-2.8 cm. longis; petioli crassiusculi, 4-6 mm. longi, teretes; limbus oblongus, 10-14 cm. longus, 4.5-5 cm. latus, apice abrupte et breviter acuminatus, basi rotundatus, tenuiter coriaceus, supra nitidus, nervis prominulis, subtus glaucescens, nervis lateralibus utroque latere c. 6, prominulis, gracillimis, inaequalibus, remote a margine laxe conjunctis; flores axillares, breviter pedicellati, pedicellis 3 mm. longis; petala carnosa, crassa, lutescentia, ovalia vel late elliptica, subaequalia, 17-21 mm. longa, 11-13 mm. lata, apice rotundata, basi obtusa, sessilia.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 661*; Yale No. 12,294 (Herb. Field Mus. No. 579,224, type).

A species easily recognized by the glaucescent under surface of the leaves.

Duguetia panamensis Standl., sp. nov.—Arbor 11-metralis, trunco 15 cm. diam., ramulis gracilibus, teretibus, ochraceis, sparse lepidotis, internodiis 1.5-4 cm. longis; petioli crassi, 3-4 mm. longi; limbus anguste oblongus vel oblanceolato-oblongus, 12.5-22.5 cm. longus, 3.5-5.2 cm. latus, apice abrupte longiacuminatus, acumine angusto, obtuso, basi acutus vel abrupte angustatus, subcoriaceus, utrinque nitidulus, supra glaber, costa impressa, subtus sparse lepidotus, costa tenui, elevata, nervis lateralibus utroque latere c. 12, tenuibus, prominentibus, rectis, remote a margine laxe conjunctis; flores axillares, pedunculo 4 mm. longo, incrassato, dense lepidoto, pedicello breviore; carpella juniora glabra, apice acuta vel obtusa; fructus late globoso-ovoideus, 4.5 cm. longus et latus, carpellis numerosis, dense congestis, 8-18 mm. longis, 6-8 mm. crassis, clavatis, sessilibus, apice rotundatis, versus basin cuneatim angustatis, superne dense congestis, 8-18 mm. longis, 6-8 mm. crassis, clavatis, sessilibus dense corrugatis et verrucosis, glabris.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 418* (Herb. Field Mus. No. 579,538, type).

A tree with full crown and straight bole. Flowers faintly fragrant, the thick petals yellow. Fruit with a fibrous or woody husk. Wood fragrant.

This is, apparently, the first species of *Duguetia* to be reported from Central America.

Rollinia microsepala Standl., sp. nov.—Ramuli crassi, teretes, cinnamomei, novellis fulvo-sericeis, internodiis brevibus; petioli 6-10 mm. longi, minute sericei; limbus oblongus vel lanceolato-oblongus, 9-14.5 cm. longus, 2.8-4.5 cm. latus, apice acuminatus, acumine acuto, basi obtusus vel acutiusculus, crasse membranaceus, supra glaber, costa impressa, subtus paullo pallidior, sparse et minutissime sericeus, nervis lateralibus utroque latere c. 17, gracilibus, leviter arcuatis vel fere rectis, juxta marginem conjunctis; flores oppositifolii vel interaxillares, fasciculati, pedicellis 10-14 mm. longis, dense et minute sericeis, versus apicem incrassatis, infra medium minute bracteolatis; sepala late ovata vel ovato-deltoidea, acuta, minute sericea, 1.5 mm. longa; corolla dense sericea, alis cuneato-obovatis, leviter adscendentibus, 10-12 mm. longis, ad apicem 5-7 mm. latis, apice late rotundatis, versus basin angustatis.—Panama: Changuinola Valley, 1927, *G. P. Cooper and G. M. Slater 102*; Yale No. 10,283 (Herb. Field Mus. No. 573,721, type).

Related to *R. mucosa* (Jacq.) Baill., in which the calyx is much larger.

Rollinia permensis Standl., sp. nov.—Arbor parva 6-metralis, trunco 7.5 cm. diam., ramulis gracilibus, teretibus, fuscis, brunneo-puberulis vel breviter pilosulis, internodiis 2.5-4 cm. longis; petioli 8-10 mm. longi, supra canaliculati, adpresso-pilosuli; limbus ellipticus vel oblongo-ellipticus, 13.5-21.5 cm. longus, 5-10 cm. latus, apice abrupte longiacuminatus, acumine obtusiusculo, basi obtusus vel acutiusculus, membranaceus, supra laete viridis, ad nervos minutissime pilosulus, subtus paullo pallidior, sparse et minute sericeus, costa crassa, nervis lateralibus utroque latere c. 11, gracilibus, elevatis, arcuatis, juxta marginem laxe conjunctis; flores oppositifolii, fasciculati, pedunculis brevissimis (in statu fructifero ad 1 cm. longis), pedicellis 5-10 mm. longis (fructiferis ad 2.5 cm.), pilis brevibus ferrugineis adscendentibus pilosulis; sepala late triangularia, acuta, 3.5 mm. longa, utrinque dense sericea; corolla dense cinereo-sericea, alis oblongis, 1 cm. longis, 5 mm. latis, leviter adscendentibus, crassis, apice rotundatis; fructus immaturus subglobosus, 1.8 cm. latus, carpellis numerosis, obtusis, dense sericeis.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 645*; Yale No. 12,278 (Herb. Field Mus. No. 579,230, type).

A small bushy tree with crooked bole.

In Safford's treatment of the genus *Rollinia* (Journ. Washington Acad. 6: 370. 1916) this falls in Group A, of which no Central American species are reported. *R. permensis* is related to the West

Indian *R. mucosa* (Jacq.) Baill., but in that the leaves are narrower, the fewer flowers on longer pedicels, and the wings of the corolla are broadened toward the apex.

MYRISTICACEAE

Dialyanthera acuminata Standl., sp. nov.—Arbor 15-18-metralis, trunco 60 cm. diam., ramulis gracilibus, ochraceis, glabratis, innovationibus sericeis, internodiis 1-1.5 cm. longis; petioli 8-12 mm. longi, graciles, glabrati, supra profunde et anguste canaliculati; limbus oblongo-ellipticus, 4.5-9 cm. longus, 2-3.5 cm. latus, apice abrupte falcato-acuminatus, acumine acuto, 1-2 cm. longo, basi obtusus vel abrupte angustatus, crassus, glaber, supra glaucescenti-viridis, minute tuberculatus, subtus brunnescens, rugulosus, nervis lateralibus utroque latere c. 7, obscuris, angulo lato divergentibus, leviter arcuatis; inflorescentiae masculae axillares, solitariae vel binae, dense pilis cinnamomeis tomentulosae, rhachi 1 vel 2 fasciculis florum onusta, fasciculis 3–7-floris, pedicellis flores aequantibus vel brevioribus; perianthium 2 mm. longum, alabastris obtusis.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 395* (Herb. Field Mus. No. 579,175, type).

Vernacular name, "Saba." A watery red sap runs from the reddish inner bark when it is cut.

Two other species of *Dialyanthera* are known from Panama, *D. otoba* (Humb. & Bonpl.) Warb. and *D. latialata* Pittier, but in both the leaves are several times larger and rounded to short-acuminate at apex.

Virola laevigata Standl., sp. nov.—Ramuli crassi, subteretes, novellis tomentellis, demum glabris, internodiis 1.2-2.5 cm. longis; petioli 5-8 mm. longi, crassi, glabrati, supra profunde et anguste canaliculati; limbus oblongus vel anguste oblongus, 13-23 cm. longus, 3-6.5 cm. latus, acuminatus, basi obtusus vel acutus et decurrens, pergamentaceus, supra obscure viridis, glaber, costa subimpressa, subtus brunnescens, statu juvenili minute tomentellus, mox glabratus, nervis lateralibus utroque latere c. 19, gracilibus, paullo elevatis, angulo lato divergentibus, fere rectis vel superioribus arcuatis, juxta marginem conjunctis; inflorescentiae masculae axillares, ramosae, ferrugineo-tomentellae, multiflorae, 8 cm. longae, ramulis brevibus, florum fasciculis densis, paucifloris, floribus brevipedicellatis vel fere sessilibus; perianthium 2.5 mm. longum, lobis 3, ovato-oblongis, obtusis, tubum aequantibus, extus fulvo-tomentellis, intus puberulis, alabastris ovoideis, obtusis; antherae 3, oblongae, obtusae, 0.5 mm. longae, connatae, stipitem paullo excedentes.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 308* (Herb. Field Mus. No. 573,062, type).

Vernacular name, "bogamani."

Related to *V. guatemalensis* (Hemsl.) Warb., but in that species the leaves are pale beneath and have more numerous pairs of lateral nerves.

CAPPARIDACEAE

Capparis crotonantha Standl., sp. nov.—Arbor 7.5 m. alta, trunco 7.5 cm. diam., ramulis gracilibus, subteretibus, viridibus, novellis pilis minutis stellatis ferrugineis dense tomentellis, demum glabratis, internodiis 1-2 cm. longis; petioli graciles, 5-9 mm. longi, stellato-tomentelli, supra anguste canaliculati; limbus elliptico-oblongus, 8-12.5 cm. longus, 2.7-5 cm. latus, apice abrupte breviacuminatus, acumine obtuso vel acutiusculo, basi acutus vel obtusus, membraneceus, supra viridis, nitidus, nervis prominulis, sparse et minute stellato-puberulus vel glabratus, nervis lateralibus utroque latere c. 8, angulo lato adscendentibus, leviter arcuatis, prope marginem conjunctis; flores paniculati, paniculis terminalibus, 2.5-5.5 cm. longis, pedunculatis, pauciramosis, ramulis pilis stellatis ferrugineo-tomentellis, pedicellis 3-7 mm. longis; sepala in alabastro leviter imbricata, oblongo-ovalia, obtusa, 2 mm. longa, stellato-tomentella; petala alba, oblongo-elliptica, 2.5 mm. longa, obtusa, extus pilis albidis tomentella; stamina numerous, filamentis glabris, petala aequantibus vel paullo superantibus, antheris oblongis, glabris, 1 mm. longis; ovarium ovale, 1 mm. longum, apice subtruncatum, gynophoro filamenta aequante; bacca globosa, 5 cm. diam., viridis, laevis, cortice 6-8 mm. crasso, pulpa alba, seminibus 3(?), c. 1.5 cm. crassis.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 660*; Yale No. 12,293 (Herb. Field Mus. No. 579,223, type).

A strikingly distinct species, quite unlike anything known previously from Central America, remarkable because of the minute flowers. In general appearance the plant suggests *Croton glabellus*.

ROSACEAE

Holodiscus pachydiscus (Rydb.) Standl., comb. nov. *Sericotheca pachydisca* Rydb. N. Amer. Fl. 22: 263. 1908.

Holodiscus Schaffneri (Rydb.) Standl., comb. nov. *Sericotheca Schaffneri* Rydb. N. Amer. Fl. 22: 264. 1908.

Holodiscus velutinus (Rydb.) Standl., comb. nov. *Sericotheca velutina* Rydb. N. Amer. Fl. 22: 265. 1908.

Photinia oblongifolia Standl., sp. nov.—Arbor parva vel mediocris, ramulis crassis, fusco-brunneis vel griseis, teretibus, rimosis, novellis dense tomentosis, internodiis brevibus; stipulae lineares vel oblongo-lineares, 4-6 mm. longae, acutae, subscariosae, brunneae, deciduae; petioli crassi, 6-12 mm. longi, densissime tomentosi; limbus oblongus, 6.5-13 cm. longus, 2.5-5 cm. latus, apice obtusus vel

rotundatus, basi obtusus vel subrotundatus, integer vel prope apicem remote serrulatus, coriaceus, primo utrinque dense tomentosus, tomento brunneo-albido, cito deciduo, supra viridis, costa plana paullo impressa, nervis obscuris, subtus vix pallidior, costa elevata, nervis lateralibus utroque latere c. 15, gracilibus, angulo lato divergentibus, fere rectis, prope marginem laxe reticulato-conjunctis, nervulis prominulis, arcte reticulatis; flores corymbosi, corymbis ad apices ramulorum fasciculatis, paucifloris, 10-14 mm. longe pedunculatis, densissime tomentosis, pedunculo adjecto c. 2 cm. longis, pedicellis brevibus, crassis, bracteolis linearibus, calyce multo brevioribus; calyx campanulatus, 3.5-4 mm. longus, dense tomentosus, lobis 5, brevibus, late ovatis, obtusis, intus glabris; petala alba, 2.5-3 mm. longa, orbicularia, sessilia, glabra; stamina pauca, filamentis subulatis, basi dilatatis, glabris; styli 3, glabri, apice dilatati et truncati; ovarium apice dense albo-tomentosum.—Mexico: San Sebastián, trail to El Ototal, Sierra Madre, Jalisco, alt. 1425 m., March 10, 1927, *Ynes Mexia 1860* (Herb. Field Mus. No. 579,915, type).

"Escaramuza." Wood hard, tough, durable, used for tool handles.

The only other Mexican species of *Photinia* is *P. mexicana* (Baill.) Hemsl., of Veracruz and Oaxaca, which differs in its more lax, appressed-tomentose inflorescence, the tomentum of *P. oblongifolia* being coarse, loose, and easily detachable. In *P. mexicana*, also, the leaves are conspicuously crenate, often acute at base, and on longer, more slender petioles.

LEGUMINOSAE

Inga Englesingii Standl., sp. nov.—Petioli 3 cm. longi, rhachi 20 cm. longa, tereti, glabra, glandulis parvis sessilibus inter foliola onusta, foliolorum paribus 6-8 cm. distantibus; foliola 8, petiolulis crassis, 4-5 mm. longis, glabris, limbo elliptico vel elliptico-oblongo, 12-24 cm. longo, 6-9 cm. lato, abrupte longiacuminato, acumine angusto, 2-4 cm. longo, acutiusculo, basi obtuso vel acuto et saepe abrupte contracto, membranaceo, glabro, supra obscure viridi, nitido, nervis prominentibus, subtus pallidiore, costa tenui, elevata, nervis lateralibus utroque latere c. 8, angulo acuto adscendentibus, inaequalibus, remote a margine laxe conjunctis; flores capitati, ad nodos ramorum vetustiorum fasciculati, pedunculis gracillimis, 10-12 mm. longis, minute puberulis, paucifloris; calyx tubularis, 3 mm. longus, glaber, breviter dentatus, dentibus triangularibus, acuminatis, 0.5 mm. longis; corolla 11 mm. longa, glabra, tubo basi 1 mm., superne 2 mm., crasso, lobis 1.5 mm. longis, late ovatis, obtusis; stamina numerosissima, longe exserta, tubo staminali gracili, 3 mm. exserto.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 205* (Herb. Field Mus. No. 579,732, type).

Calliandra cruziana (Britt. & Rose) Standl., comb. nov. *Anneslia cruziana* Britt. & Rose, N. Amer., Fl. 23: 54. 1928.

Pithecolobium longifolium (Humb. & Bonpl.) Standl., comb. nov. *Inga longifolia* Humb. & Bonpl.; Willd. Sp. Pl. 4: 1010. 1806.

Pithecolobium belizense Standl., nom. nov. *Inga Peckii* Robinson, Proc. Amer. Acad. 49: 502. 1913. *Zygia Peckii* Britt. & Rose, N. Amer. Fl. 23: 39. 1928, not *Pithecolobium Peckii* Blake, 1917.

Pithecolobium scopulinum (Brandeg.) Standl., comb. nov. *Calliandra scopulina* Brandeg. Univ. Calif. Publ. Bot. 10: 183. 1922. *Zygia scopulina* Britt. & Rose, N. Amer. Fl. 23: 40. 1928.

Pithecolobium Recordii (Britt. & Rose) Standl., comb. nov. *Zygia Recordii* Britt. & Rose; Standl. Trop. Woods 7: 6. 1926.

Pithecolobium Conzattii Standl., comb. nov. *Calliandra Conzattii* Standl. Contr. U. S. Nat. Herb. 20: 188. 1919. *Zygia Conzattii* Britt. & Rose, N. Amer. Fl. 23: 40. 1928.

Pithecolobium pseudo-tamarindus Standl., sp. nov.—Arbor inermis 15-18 m. alta, trunco 60 cm. diam., ramulis obtuse angulatis, ferrugineo-tomentellis; folia bipinnata, petiolis 3.5-4 cm. longis, teretibus, prope medium vel supra medium glandulis 3 sessilibus remotis onustis; rhachis folii 14-17 cm. longa, fulvo-tomentella, glandulis sessilibus inter omnes pinnas onusta; pinnae c. 16-jugae, 6-9 cm. longae; foliola c. 40-juga, anguste oblonga, 5-7 mm. longa, 1.8 mm. lata, apice obtusa vel rotundata, basi sessili oblique rotundata, glabra, supra viridia, subtus pallidiora, costa centrali, nervulis prominulis; inflorescentiae, racemosae, pedicellis (statu fructifero) 5-6 mm. longis; calyx 1.5 mm. longus, minute strigillosus, breviter dentatus, dentibus triangularibus, acutis; legumen circinnatum, 10-12 mm. latum, inter semina (3-5) leviter constrictum et spurie septatum, valvis tenuibus, atrobrunneis, sparse strigillosis vel fere glabris.—Panama: Bocas Island, near Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 461* (Herb. Field Mus. No. 579,411, type).

The local name is "wild tamarind." The tree has low buttresses.

Cashalia panamensis Standl., sp. nov.—Arbor 18-metralis, trunco 38 cm. diam.; folia pinnata, rhachi, petiolo adjecto, c. 12 cm. longa, crassa, supra anguste sulcata, brunneo-tomentosa, petiolulis crassis, nigrescentibus, 4-5 mm. longis; foliola c. 6, lateralibus ovalibus vel late oblongis, terminali ovali-obovato, omnibus apice rotundatis vel obtusissimis, basi late rotundatis, crasse membranaceis, supra viridibus, glabratis, nervis non conspicuis, subtus pallidioribus, satis dense et molliter puberulis, costa crassa, elevata, nervis lateralibus utroque latere 11-14, prominentibus, angulo lato divergentibus, leviter arcuatis, prominentibus; flores racemosi, racemis statu fructifero 9 cm. longis, rhachi crassa, brunneo-tomentosa, pedicellis crassissimis, c. 1 cm. longis; legumen sessile, obovoideum, ellipsoideum

vel oblongum, subteres, 5.5-8 cm. longum, apice et basi rotundatum vel obtusum, obtuse tuberculatum, dense brunneo-tomentosum, bivalvatum, valvis crassis; semina 1-2, 2.5 cm. longa, 1.3 cm. lata.—Panama: Holstein Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 520* (Herb. Field Mus. No. 579,373, type).

Local name, "citron." Fruits reddish. The bark has a red sap, which is used as a purgative. The red "skin" of the fruit is used as a febrifuge, and is sold for this purpose in the native drug shops (Collector's notes).

The writer is far from certain that this tree belongs in the genus *Cashalia* (Standl. Journ. Washington Acad. 13: 440. 1923), described from Salvador, but it has been impossible to find any more satisfactory place for it. The fruits are very similar to those of *C. cuscatlanica*, but the leaves are conspicuously different.

Cassia macropoda Standl., comb. nov. *Chamaecrista macropoda* Standl. Contr. U. S. Nat. Herb. 17:431. 1915.

Crudia Choussyana Standl., comb. nov. *Apalatoa Choussyana* Standl. Journ. Washington Acad. Sci. 13: 440. 1923.

Lennea salvadorensis Standl., sp. nov.—Ramuli validi, subteretes, griseo-brunnei, rimosi, lenticellati, novellis ochraceis, pilis minutis brunneis subadpressis sparse indutis, internodiis brevibus; stipulae lineari-subulatae, 2-3 mm. longae, persistentes, erectae; folia 5.5-15.5 cm. longa, brevipetiolata, rhachi gracili, supra late sulcata, minute adpresso-pilosula; foliola 15-19, opposita vel subopposita, petiolulata, petiolulo 1-2.5 mm. longo, limbo anguste oblongo, oblongo vel (infimo) ovali, 2-6 cm. longo, 0.6-1.5 cm. lato, apice rotundato, basi obtuso, rotundato vel in foliolo terminali acuto, integro, crasse membranaceo, supra griseo-viridi, sparse et minute adpresso-pilosulo vel glabrato, nervulis prominulo-reticulatis, subtus concolore, strigilloso vel glabrato, costa et nervis lateralibus gracilibus, elevatis, nervulis arcte reticulatis, margine plano vel revoluto; racemi subterminales (in statu fructifero), 2-3.5 cm. longi, rhachi crassa, rigida, minute adpresso-pilosula, bracteis anguste triangularibus, persistentibus, adscendentibus; legumen subsessile, compressum, 7.5-11 cm. longum, 1.5-2 cm. latum, apice obtusum vel rotundatum et apiculatum, basin versus paullo angustatum, basi ipsa obtusa, sparse pilis brunnescentibus sericeum, valvis crassis.—Salvador: Hacienda Corinto, Zaragoza, July 19, 1928, *Salvador Calderón 2394* (Herb. Field Mus. No. 579,825, type).

Vernacular name, "polvo de queso."

Tephrosia arcuata (Rydb.) Standl., comb. nov. *Cracca arcuata* Rydb. N. Amer. Fl. 24: 166. 1923.

Tephrosia platyphylla (Rose) Standl., comb. nov. *Cracca platyphylla* Rose, Contr. U. S. Nat. Herb. 12: 270. 1909.

Tephrosia Watsoniana Standl., comb. nov. *Clitoria sericea* Wats. Proc. Amer. Acad. 22: 407. 1187, not *Tephrosia sericea* DC., 1825. *Cracca Watsoniana* Standl. Contr. U. S. Nat. Herb. 23: 472. 1922.

Tephrosia tepicana Standl., comb. nov. *Cracca tepicana* Standl. Contr. U. S. Nat. Herb. 20: 217. 1919.

Desmodium Painteri (Rose & Standl.) Standl., comb. nov. *Meibomia Painteri* Rose & Standl. Contr. U. S. Nat. Herb. 16: 214. 1913.

Desmodium angustatum (Rose & Standl.) Standl., comb. nov. *Meibomia angustata* Rose & Standl. Contr. U. S. Nat. Herb. 16: 215. 1913.

Desmodium pallidum (Rose & Painter) Standl., comb. nov. *Meibomia pallida* Rose & Painter, Bot. Gaz. 40: 145. 1905.

Desmodium Robinsonii Standl., comb. nov. *Meibomia Robinsonii* Standl. Contr. U. S. Nat. Herb. 23: 486. 1922.

Centrosema heteroneura Standl., comb. nov. *Bradburya heteroneura* Standl. Contr. U. S. Nat. Herb. 18: 106. 1916.

Rhynchosia Pittieri Standl., comb. nov. *Dolicholus Pittieri* Standl. Contr. U. S. Nat. Herb. 17: 433. 1915.

Rhynchosia ixodes Standl., comb. nov. *Dolicholus ixodes* Standl. Contr. U. S. Nat. Herb. 18: 107. 1916.

Rhynchosia tarphantha Standl., sp. nov.—Suffrutex scandens 1-4 m. longus, ramosus, ramis crassis, striato-angulatis, densissime pilis brevibus patentibus vel subretrorsis velutino-pilosis, internodiis elongatis; stipulae ovatae, acuminatae, deciduae; folia longipetiolata, 3-foliolata, petiolo 2-4 cm. longo, rhachi 1-1.5 cm. longa, dense pilosa, petiolulis crassis, 4-6 mm. longis; foliola rhombico-orbicularia vel late rhombico-ovata, terminali saepe transverse ovali, 3-7.5 cm. longa, 2.5-8.5 cm. lata, apice obtusa, rotundata vel late rotundata et plerumque abrupte breviterque acuminata, acumine triangulari, acuto, basi truncata vel rotundata, lateralibus basi inaequalibus, crassa, supra viridia, sericea vel interdum velutino-pilosula, subtus paullo pallidiora, dense breviterque velutino-pilosa, ad nervos sericea, 3-nervia, nervis et nervulis elevatis, arcte reticulatis; racemi capituliformes, 1.5-2 cm. lati, 0.6-2.5 cm. longi, pedunculati, dense multiflori, axillares et solitarii vel subracemosi, pedicellis 1-2 mm. longis; bracteae ovatae vel lanceolatae, alabastris longiores, longiacuminatae, dense sericeae, deciduae; calyx 10-12 mm. longus, utrinque sericeus, lobis lineari-lanceolatis, longiattenuatis, viridibus, reticulato-venosis; petala pallide flavo-viridia, glabra, calycem non superantia.—Mexico: Open slope near stream, San Sebastián. west

of Hacienda del Ototal, Arroyo de los Hornos, Sierra Madre Occidental, Jalisco, alt. 1,500 m., March 4, 1927, *Ynes Mexia 1802* (Herb. Field Mus. No. 579,894, type). Acapulco, 1895, *Palmer 524a.*

Except for its more dense pubescence, the Palmer specimen seems to be identical with the type. The species is well marked by the short dense headlike racemes.

Dalbergia cuscatlanica Standl., comb. nov. *Amerimnon cuscatlanicum* Standl. Journ. Washington Acad. Sci. 13: 442. 1923.

MELIACEAE

Guarea chiricana Standl., sp. nov.—Arbor parva 7.5-11 m. alta, trunco 5-20 cm. diam., ramulis gracilibus, teretibus, ochraceis, novellis breviter patenti-pilosis; petioli 3-5.5 cm. longi, rhachi 5.5-9 cm. longa, hirtella, petiolulis crassis, 2-3 mm. longis; foliola 2–3-juga, elliptico-oblonga vel anguste elliptica, 10-22 cm. longa, 4-8.5 cm. lata, apice abrupte caudato-acuminata, acumine obtuso, 2-2.5 cm. longo, basi obtusa vel acutiuscula, membranacea, supra laete viridia, nitidula, ad costam hirtella, nervis prominulis, dense reticulatis, subtus pallidiora, ad nervos sparse hirtella, nervis lateralibus utroque latere c. 14, angulo obtuso adscendentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis, reticulatis; paniculae racemiformes, 3-4 cm. longae, simplices, multiflorae, densae, rhachi sparse hirtella, floribus breviter pedicellatis, pedicellis incrassatis; calyx vix 2 mm. longus, campanulatus, remote et breviter 4-denticulatus, glaber vel ad denticulos parce hirtellus; petala 4, 8 mm. lomga, anguste oblonga, obtusa, glabra vel ad apicem sparse hirtella; tubus stamineus cylindricus, glaber, 7 mm. longus; ovarium oblongum, 1.5 mm. longum, parcissime hispidulum, stylo glabro, 4 mm. longo; capsula subglobosa, glabra, sessilis, apice rotundata, 13 mm. longa, obtuse tuberculata.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 164*; Yale No. 10,517 (Herb. Field Mus. No. 573,073, type), *229* (Yale No. 10,582).

Vernacular names, "mameicillo blanco," "dorita." The wood is used locally for house construction when no better wood is available, and also for implement handles, but it is not considered durable.

Guarea chiricana is related, perhaps, to *G. microcarpa* C. DC. and to *G. Donnell-Smithii* C. DC., but both those species have much smaller flowers.

Cedrela salvadorensis Standl., sp. nov.—Petioli 5.5-7.5 cm. longi, rhachidibus 24-26 cm. longis, tomentosis; foliola 15-17, opposita, petiolulis 2-3 mm. longis, dense breviterque pilis brevibus pilosis, limbis ovato-oblongis, 8-11 cm. longis, 3.5-5 cm. latis, abrupte acuminatis, basi oblique rotundatis, supra praecipue ad nervos hirtellis, subtus molliter denseque pilosulis, nervis lateralibus pro-

minentibus, utroque latere c. 17, leviter curvatis; capsula longipedicellata, anguste obovoidea, versus basin angustata, apice obtusa, 9.5 cm. longa, valvis 2.5 cm. latis, 7 mm. crassis.—Salvador: Near Chalchuapa, 1922, *Salvador Calderón 1007* (U. S. Nat. Herb. No. 1,151,973, type).

Although known only from incomplete material, this *Cedrela* is evidently distinct in the large capsules and densely pubescent leaflets. The vernacular name is "cedro macho."

Trichilia breviflora Blake & Standl., sp. nov.—Frutex 3 m. altus, ramulis gracilibus, teretibus, sordide puberulis, internodiis 1-3.5 cm. longis; folia unifoliolata, petiolis c. 1 cm. longis, gracilibus, puberulis, supra late canaliculatis, petiolulis 2-4 mm. longis; foliola oblonga vel obovato-oblonga, 8.5-13.5 cm. longa, 3.5-5.5 cm. lata, apice abrupte breviterque acuminata, acumine lato, obtuso, basi acuta, chartacea, supra laete viridia, ad costam sparse puberula, subtus brunnescentia, ad nervos sparse puberula, nervis lateralibus gracilibus, utroque latere 10-12, divaricatis, leviter arcuatis, remote a margine irregulariter anastomosantibus; paniculae axillares et terminales, 2.5-5.5 cm. longae, 1.2-3 cm. latae, multiflorae, longipedunculatae, pedunculis 1-3 cm. longis, ramulis sparse puberulis, floribus breviter pedicellatis, pedicellis validis, vix 1 mm. longis; calyx strigillosus, c. 0.7 mm. longus, dentibus 4-5, brevibus, late deltoideis, acutiusculis; petala 4-5, superne sparse strigillosa, 1.5 mm. longa; antherae 4-5, obtusae, glabrae, 0.7 mm. longae, filamentis brevissimis, in apice tubi staminei brevis insertis, dentibus triangularibus, interdum bidentatis, apice minute hispidulis interpositis; ovarium dense hispidulum, 2-loculare, ovulis 2, collateralibus; stylus brevissimus, glaber.—Honduras: In rich wet soil in deep jungle at sea level, near Tela, Dept. of Atlántida, April 7, 1926, *Elizabeth R. Mitchell 96* (U. S. Nat. Herb. No. 1,269,751, type).

A very distinct species because of the unifoliolate leaves and minute flowers.

BURSERACEAE

Tetragastris Stevénsonii Standl., sp. nov.—Arbor, ramulis crassis, subteretibus, brunnescentibus vel ochraceis, lenticellatis, lenticellis elevatis; folia pinnata, petiolo 5.5-10 cm. longo, gracili, supra plano, subtus obtuse carinato, glabro, rhachi 5-9 cm. longa, foliolorum paribus 2-4 cm. distantibus; foliola 7, opposita, petiolulo 4-7 mm. longo, crasso, limbo oblongo vel lanceolato-oblongo, 6.5-12 cm. longo, 2.5-4 cm. lato, longiacuminato, acumine angusto, obtuso, 1-2 cm. longo, basi obtuso vel acutiusculo, integro, subcoriaceo, glabro, nervis supra prominentibus, costa subtus elevata, crassa, nervis lateralibus utroque latere c. 11, angulo lato divergentibus, leviter arcuatis, tenuibus, elevatis, prope marginem laxe conjunctis; paniculae axillares, fasciculatae, multiflorae, pedunculatae vel e basi ramosae, ad 18 cm. longae, ramis sparse et minute puberulis vel

glabratis, pedicellis crassis, 1-2 mm. longis, puberulis; calyx late campanulatus, 2.5 mm. latus, 1.5 mm. longus, minute et sparse puberulus, brevissime lobatus, lobis late rotundatis; corolla anguste campanulata, 5 mm. longa, extus minute puberula, tubo basi 2 mm., fauce 3 mm., lato, lobis oblongo-ovatis, tubo brevioribus, erectis, obtusis, apice recurvis; stamina 1-2 mm. longa.—British Honduras: In 1928, *Neil S. Stevenson 9* (Herb. Field Mus. No. 579,768, type).

The only species of *Tetragastris* known from Central America is *T. panamensis* (Engler) Kuntze, of Panama, which differs in having much smaller flowers.

Bursera Oerstedii Standl., comb. nov. *Elaphrium Oerstedii* Standl. Journ. Washington Acad. Sci. 17: 521. 1927.

Bursera biflora (Rose) Standl., comb. nov. *Terebinthus biflora* Rose, Contr. U. S. Nat. Herb. 10: 119. 1906.

Bursera longipedunculata (Rose) Standl., comb. nov. *Elaphrium longipedunculatum* Rose, N. Amer. Fl. 25: 254. 1911.

Bursera queretarensis (Rose) Standl., comb. nov. *Elaphrium queretarense* Rose, N. Amer. Fl. 25: 254. 1911.

Bursera subtrifoliata (Rose) Standl., comb. nov. *Terebinthus subtrifoliata* Rose, Contr. U. S. Nat. Herb. 10: 122. 1906.

Bursera longipes (Rose) Standl., comb. nov. *Terebinthus longipes* Rose, Contr. U. S. Nat. Herb. 10: 120. 1906.

Bursera arida (Rose) Standl., comb. nov. *Terebinthus arida* Rose, Contr. U. S. Nat. Herb. 10: 118. 1906.

Bursera pubescens (Schlecht.) Standl., comb. nov. *Elaphrium pubescens* Schlecht. Linnaea 16: 527. 1842.

Bursera pubescens Wats. (Proc. Amer. Acad. 24: 44. 1889) belongs in another family, being a synonym of *Veatchia discolor* var. *pubescens* (Wats.) I. M. Johnston.

Bursera tecomaca (DC.) Standl., comb. nov. *Amyris tecomaca* DC. Prodr. 2: 82. 1825.

EUPHORBIACEAE

Caryodendron angustifolium Standl., sp. nov.—Arbor 4.5-6-metralis, praeter inflorescentiam glabra, trunco 5-7.5 cm. diam., ramulis crassis, teretibus, viridibus, internodiis 2-8 cm. longis;

petioli 1.2-3 cm. longi, validi; limbus anguste oblanceolato-oblongus, 19-26 cm. longus, 5-7 cm. latus, integer, cartilagineo-marginatus, breviter acuminatus, acumine lato, rotundato vel emarginato, versus basin cuneatam sensim angustatus, supra prope basin biglandulosus, supra viridis, opacus, minutissime punctulatus, costa et nervis lateralibus prominentibus, subtus paullo pallidior, costa crassa, elevata, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus, juxta marginem conjunctis; spicae masculinae paucae, 4-20 cm. longae, paniculam terminalem efformantes, rhachi crassa, parce strigillosa, e basi florigera; bracteae latissime triangulares, rotundatae, strigillosae et ciliolatae, dense multiflorae; flores sessiles, vix 2 mm. longi, alabastris subglobosis, glabris; sepala late ovata, obtusa; stamina plerumque 7, antheris ovalibus, connectivo obtuso.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 192*; Yale No. 10,547 (Herb. Field Mus. No. 573,129, type).

The genus *Caryodendron* has not been reported previously from North America. Two other species are known, *C. grandifolium* (Muell.) Pax, of Brazil, and *C. orinocense* Karst., of Colombia. The Panama tree is related to *C. grandifolium*, but in that the leaves are proportionately broader, the spikes more slender, and the flower clusters smaller.

Cleidion denticulatum Standl., sp. nov.—Arbor 9-metralis, trunco 20-25 cm. diam., ramulis teretibus, ferrugineo-brunneis, minute strigillosis vel demum glabratis, internodiis 2-4 cm. longis; petioli crassi, 6-10 mm. longi, strigillosi; limbus oblanceolato-oblongus vel anguste oblongo-oblanceolatus, 14.5-36 cm. longus, 3-8 cm. latus, apice breviter cuspidato-acuminatus, acumine 1 cm. longo, obtuso, versus basin sensim angustatus, basi ipsa cuneato-acuta, crasse pergamentaceus, remote sinuato-denticulatus vel basin versus integer, supra viridis, nitidulus, glaber, costa et nervis lateralibus prominulis, subtus paullo pallidior, sparse strigillosus, nervis lateralibus utroque latere 6-8, prominentibus, angulo acuto adscendentibus, leviter curvatis, juxta marginem conjunctis, nervulis prominulis; flores feminei racemosi, racemis axillaribus, paucifloris, 5-7 cm. longis vel longioribus, pedicellis statu fructifero crassis, c. 3 mm. longis; calyx profunde lobatus, extus adpresso-pilosulus; capsula (perfecta non visa) c. 12 mm. longa, tricocca, elastice loculicida, strigillosa; semina subglobosa, 8 mm. longa, 7 mm. lata, castanea, maculis ochraceis conspersa, ecarunculata.—Panama: Buena Vista Camp, Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 606*; Yale No. 12,239 (Herb. Field Mus. No. 579,650, type).

Because of incomplete material, the generic position of this plant is very uncertain, but in general appearance it agrees well with material referred to *Cleidion nicaraguense* Hemsl. That species differs in having coarsely sinuate-crenate leaves, with much fewer teeth, and with spreading pubescence.

Tetrorchidium euryphyllum Standl., sp. nov.—Arbor 9-metralis, trunco 10 cm. diam., ramulis crassulis, obtuse angulatis, viridibus, dense strigillosis, internodiis brevibus; petioli 2.5-3.5 cm. longi, validi, supra canaliculati, dense strigillosi, subtus ad apicem biglandulosi, glandulis conicis; limbus late ellipticus, 17-21 cm. longus, 10-13 cm. latus, apice rotundatus et breviter acuminatus, acumine 5-10 mm. longo, triangulari, obtuso, basi obtusus et abrupte breviterque decurrens, remote et minute supra medium denticulatus, membranaceus, supra laete viridis, minute strigillosus, nervis non conspicuis, subtus paullo pallidior, strigillosus, costa crassiuscula, elevata, nervis lateralibus utroque latere 6, arcuatis, tenuibus, juxta marginem laxe conjunctis; racemi feminei laxe pluriflori, axillares, geminati vel solitarii, 3.5-6 cm. longi, pedunculati, rhachi dense fulvescenti-strigosa, pedicellis 1-2.5 mm. longis; sepala 3, ovato-deltoidea, acuta; discus hypogynus carnosus, integer; ovarium glabrum, 2-loculare, ovulis in loculis solitariis; capsula juvenilis 5 mm. lata, 4 mm. alta; styli breves, crassi, obscure bilobati.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 450 m., 1928, *G. P. Cooper 621* (Herb. Field Mus. No. 579,643, type).

The generic position of this tree is not altogether certain, but it seems to agree best with *Tetrorchidium*, and does not differ in any important character. Because of the glabrous ovary it would run at once in Pax's key (in Engl. Planzenreich IV. 147[4]: 30. 1912) to *T. andinum* Muell., a Peruvian species of which I have seen no material. The Peruvian tree is described as having oblong-elliptic or oblong-obovate, coarsely dentate leaves which are glabrous except on the nerves.

Pausandra extorris Standl., sp. nov.—Ramuli novelli 8 mm. crassi, dense foliati, sulcati, dense pilis brevibus dibrachiatis pilosi; petioli 4 mm. crassi, 2-2.5 cm. longi, striati, breviter adpresso-pilosi; limbus anguste spathulato-obovatus, 36-47 cm. longus, 9-15 cm. latus, apice acuminatus vel rotundatus et breviter cuspidato-acuminatus, versus basin longe attenuatus, basi ipsa biglandulosus, glandulis crassis, conicis, acutis, sessilibus, 2 mm. longis, tenuiter coriaceus, in toto margine serrato-dentatus, dentibus 8-22 mm. distantibus, supra viridis, glaber, nervis elevatis, subtus pallidior, sparse pilis brevibus dibrachiatis adpressis pilosus, costa gracili, elevata, nervis lateralibus utroque latere c. 30, angulo lato divergentibus, leviter arcuatis, gracilibus, prominentibus, parallelis, juxta marginem conjunctis; spicae masculinae axillares, solitariae, breviter pedunculatae, 7-10.5 cm. longae, rhachi crassa, dense adpresso-pilosula, remotiflora; alabastra 1.5 mm. longa, calyce minute adpresso-pilosulo.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 216* (Herb. Field Mus. No. 579,728, type).

Only four other species of *Pausandra* are known, all of them natives of South America. *P. extorris* is related to *P. Morisiana*

(Casar.) Radlk., of Brazil, but in that the leaves are smaller, the petioles longer, and the lateral nerves of the leaves only 20.

Euphorbia Mexiae Standl., sp. nov.—Herba laticifera 3-4 m. longa, subscandens, caulibus gracilibus, 0.5-2.2 mm. crassis, teretibus, glabris, ramis adscendentibus, internodiis elongatis; folia inferiora alterna, superiora opposita, longipetiolata, petiolo capillari, 2-20 mm. longo, glabro vel rarius sparse villoso; limbus ovatus vel elliptico-ovatus, 15-25 mm. longus, 9-15 mm. latus, foliis ramealibus 3-7 mm. longis, apice acutus vel obtusus, basi aequali rotundatus, integer, tenuis, utrinque sparse pilis albidis gracillimis villosulus vel glabratus, supra viridis, subtus paullo pallidior, costa gracillima, nervis lateralibus utroque latere 5-6, obscuris, curvatis; stipulae glanduliformes; involucra axillaria, solitaria, 2 mm. longe pedicellata, turbinato-campanulata, 2 mm. longa, basi acutiuscula nuda, viridia, adpresso-pilosula, lobis brevissimis, laciniatis, glandulis in lobos lineares albos apice paullo dilatatos dissectis; ovarium glabrum; capsula 5 mm. longe stipitata, glabra, 2 mm. alta, 3 mm. lata; semina non visa.—Mexico: In woods on mountain side, Santa Cruz de Vallarta, Jalisco, alt. 700 m., Dec. 10, 1926, *Ynes Mexia 1272* (Herb. Field Mus. No. 579,892, type).

Vernacular name, "hierba de arlomo."

ANACARDIACEAE

Rhus allophyloides Standl., sp. nov.—Frutex 3-metralis, ramulis validis, teretibus, pallide cinnamomeis, dense pilis inaequalibus brunnescentibus velutino-pilosis, internodiis elongatis; folia alterna, trifoliolata, petiolo 2.5-4.5 cm. longo, valido, subtereti, dense piloso, foliolis lateralibus sessilibus vel subsessilibus, foliolo terminali 5-12 mm. longe petiolulato; foliola oblongo-ovata, ovata vel rhombico-ovata, 4-11 cm. longa, 2-6.5 cm. lata, acuta vel acuminata, basi rotundata, obtusa vel (terminalia) cuneato-acuta, grosse crenato-dentata, dentibus inaequalibus, acutis vel obtusis, crassa, supra viridia, hispido-pilosa, nervis paullo elevatis, subtus pallida, dense velutino-pilosa, costa crassa, elevata, nervis lateralibus utroque latere 8-11, adscendentibus, prominentibus, leviter arcuatis vel fere rectis, percurrentibus; flores paniculati, paniculis axillaribus et terminalibus, dense multifloris, 3-5 cm. longis, pauciramosis, bracteis imbricatis, rotundatis vel late ovatis, apice rotundatis vel obtusis, inferne minute pilosulis; sepala ovali-ovata, obtusa, glabra; petala alba, glabra, 2.5 mm. longa; drupa subcompressa, orbicularis, 4-5 mm. longa, nitida, pilosa.—Mexico: Near stream in thicket on steep hillside, trail from San Sebastián to Real Alto, Sierra Madre Occidental, Jalisco, alt. 2,000 m., February 4, 1927, *Ynes Mexia 1640* (Herb. Field Mus. No. 579,804, type). Thicket along shady stream bank, Real Alto, trail to Arroyo de las Canelillas, Jalisco, alt. 2,500 m., *Mexia 1729* (U. S. Nat. Herb.).

Evidently related to *R. terebinthifolia* Schlecht. & Cham., but in that species the leaflets are usually 5-15, and the panicles large and lax.

AQUIFOLIACEAE

Ilex berberidifolia Standl., sp. nov.—Arbor parva, ramulis subteretibus, obscure griseo-brunneis, internodiis brevibus; folia decidua, in apicibus ramulorum valde abbreviatorum congesta; petioli 1.5-2 mm. longi, glabrati; limbus oblongo-ellipticus vel oblongo-obovatus, 13-20 mm. longus, 5-9 mm. latus, apice rotundatus vel obtusus et saepe emarginatus, basi acutus vel rarius obtusus, supra medium remote adpresse-crenatus, tenuis, supra obscure viridis, glabratus, subtus pallidior, statu juvenili adpresse griseo-pilosus, mox glabratus; flores fasciculati, longipedicellati, pedicellis 7-9 mm. longis, gracilibus, glabris; calyx 2 mm. latus, glaber, breviter 4-lobatus, lobis apice obtusis vel rotundatis; petala ochroleuca, obovato-elliptica, 3 mm. longa, apice rotundata, glabra; filamenta 2 mm. longa, crassa, antheris late oblongis, 1 mm. longis.—Mexico: Widespread on mountain tops, Santa Rita Ranch, Tamaulipas, alt. 1,500 m., April 8, 1926, *Robert Runyon 878* (U. S. Nat. Herb. No. 1,315,866, type).

In general appearance this *Ilex* suggests *I. vomitoria* Ait., but in that the persistent leaves are obtuse or rounded at base, and the pedicels are much shorter.

Ilex panamensis Standl., sp. nov.—Arbor mediocris, omnino glabra, ramulis crassiusculis, ochraceis, internodiis brevibus; petioli crassi, 4-6 mm. longi, supra late canaliculati; limbus oblongus vel anguste elliptico-oblongus, 6-10 cm. longus, 2.3-3.5 cm. latus, apice obtusus vel rotundatus, basi obtusus vel acutiusculus, subcoriaceus, supra obscure viridis, nitidus, nervis non elevatis, subtus opacus, nervis lateralibus tenuissimis, inconspicuis, utroque latere c. 10, irregularibus, angulo obtuso divergentibus, prope marginem laxe anastomosantibus; flores feminei axillares, pauci, fasciculati, pedicellis 4-5 mm. longis, crassiusculis; calyx fere 2 mm. latus, breviter 5-lobatus, lobis latis, obtusissimis; drupae globosae, 3-3.5 mm. diam., apice late rotundatae.—Panama: Bocas Island, near Almirante, 1928, *G. P. Cooper 469* (Herb. Field Mus. No. 579,403, type).

Only one species of *Ilex*, *I. occidentalis* Macfad., has been reported from Panama, and the identity of the specimens so reported (from Ancón Hill) is problematical, since no similar plant has been found recently in Panama. *Ilex panamensis* is not related to *I. occidentalis*, nor does it bear any close relationship to any of the species described by the writer[1] from Costa Rica.

[1]See Journ. Washington Acad. Sci. 16: 481. 1926.

The local name of *Ilex panamensis* is "garlic wood." The tree is 12 m. high, with a trunk 30 cm. in diameter, the bole sometimes excentric. The wood is creamy flat white when cut, but almost immediately on exposure it turns greenish gray.

HIPPOCRATEACEAE

Salacia megistophylla Standl., sp. nov.—Frutex scandens glaber, ramulis teretibus, 5 mm. crassis, elevato-lenticellatis, ad nodos incrassatis; folia opposita, petiolo crasso, supra profunde et anguste sulcato, 1.8 cm. longo; limbus oblongus vel lanceolato-oblongus, 34-36 cm. longus, 14 cm. latus, breviter acuminatus, acumine obtusiusculo, triangulari, basi rotundatus, subcoriaceus, integer, supra nitidus, costa paullo elevata, nervis vix elevatis, subtus opacus, corrugulatus, fere concolor, costa crassa, elevata, nervis lateralibus utroque latere c. 9, angulo acuto adscendentibus, arcuatis, marginem revolutam fere attingentibus; pedicelli fructiferi lignosi, crassi, 3-3.5 cm. longi; fructus globosus, 6 cm. diam., basi et apice rotundatus, brunnescens, glaber.—Panama: Cricamola Valley, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 503* (Herb. Field Mus. No. 579,427, type).

The species is well marked by the very large leaves and large fruits.

ICACINACEAE

Discophora panamensis Standl., sp. nov.—Arbor 9-metralis, trunco 10 cm. diam., ramulis gracilibus, teretibus, laevibus, viridibus, minute puberulis, internodiis 1.5-2 cm. longis; folia alterna, petiolis 1-1.5 cm. longis, supra anguste et profunde canaliculatis, dense et minute puberulis; limbus oblongus, 13-17 cm. longus, 4-5.5 cm. latus, abrupte breviterque acuminatus, acumine 7-10 mm. longo, obtuso vel acutiusculo, basi obtusus vel acutus, integer, membranaceus, supra laete viridis, glaber, costa et nervis lateralibus impressis, subtus pallidior, ad nervos et interdum in tota superficie sparse puberulus, costa crassa, elevata, nervis lateralibus utroque latere 7-8, tenuibus, angulo acuto adscendentibus, leviter arcuatis, juxta marginem conjunctis; flores albi, cymosi, cymis axillaribus, sessilibus vel pedunculatis, laxe multifloris, 2-3 cm. longis et latis, ramulis puberulis, floribus sessilibus vel breviter pedicellatis; calyx 0.7 mm. longus, glaber, subinteger; petala ovato-oblonga, 1.5 mm. longa, valvata, obtusa, glabra, intus unicostata; stamina petalis paullo longiora, filamentis crassis, supra basin dense pilis albis barbatis, infra antheras angustatis et glabris, antheris ovatis, 0.5 mm. longis, obtusis, glabris; ovarium glabrum.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 613*; Yale No. 12,246 (Herb. Field Mus. No. 579,637, type).

Only one other species, *Discophora guianensis* Miers, is known in this genus of the Icacinaceae. That tree, of Brazil and the Guianas, differs in having larger coriaceous leaves and much stouter branches of the inflorescence.

SAPINDACEAE

Cupania asperula Standl., sp. nov.—Arbor 14.5 m. alta, trunco 18 cm. diam., ramis crassis, teretibus, sulcatis, dense pilis longiusculis patentibus vel adscendentibus fulvis pilosis, internodiis brevibus; folia pinnata, petiolo 5-6 cm. longo, subtereti, dense piloso, rhachi 7-8.5 cm. longa, foliolorum paribus 3.5-4 cm. distantibus; foliola 6-8, subopposita, petiolulo crasso, 3-5 mm. longo, dense piloso, limbo anguste oblongo vel oblanceolato-oblongo, 7-16 cm. longo, 3-5.5 cm. lato, apice obtuso vel rotundato et breviter apiculato, versus basin obtusam angustato, coriaceo, remote serrulato, dentibus breviter mucronatis, margine revoluto, supra pallide viridi, subbullato, nitido, puberulo vel minute hirtello, costa prominente, nervis lateralibus impressis, nervulis prominulis, subtus brunnescente, hirtello, costa valida, elevata, nervis lateralibus utroque latere c. 10, angulo lato adscendentibus, arcuatis, percurrentibus, nervulis prominentibus, arcte reticulatis; flores racemoso-paniculati, paniculis axillaribus, pedunculatis, 25 cm. longis, ramulis paucis, 4-8 cm. longis, dense multifloris, molliter fulvo-pilosis; bracteae lineares, 4-6 mm. longae, patentes, breviter pilosae; pedicelli ad 3 mm. longi; calycis lobi oblongi, obtusi, 3 mm. longi, extus dense breviterque pilosi; capsula triquetra, brevistipitata, 20-24 mm. lata, 14 mm. longa, dense pilis fulvis hirtella, lobis compressis, valvis intus sparse hirtellis.—Nicaragua: Region of Bragman's Bluff, March 30, 1928, *F. C. Englesing 176* (Herb. Field Mus. No. 579,724, type).

"Cola de pavo." "Bilabila" (Mosquito dialect). A small tree in thick forest near Camp No. 23, in heavy clay soil. Capsule dark maroon. Wood yellow, with spicy-peppery odor. Said to be used by the Indians for canoe paddles.

Cupania Cooperi Standl., sp. nov.—Arbor 11-metralis, trunco 25 cm. diam., ramulis crassis, subteretibus, fulvo-tomentosis vel demum glabratis, internodiis brevibus; petioli 3-7 cm. longi, rhachi 5-10 cm. longa, subtereti, dense hirtella, petiolulis 2-4 mm. longis; foliola 4-6, oblanceolato-oblonga vel oblongo-obovata, inaequalia, infimis brevioribus, 9-21.5 cm. longa, 4-7.5 cm. lata, apice abrupte breviacuminata, rarius obtusa, basi acuta vel cuneatim angustata, remote adpresso-serrata, versus basin integra, rarius dentibus salientibus apiculatis serrata, supra viridia, ad nervos hirtella vel puberula, subtus paullo pallidiora, hirtella, costa et nervis lateralibus prominentibus, nervis utroque latere c. 11, adscendentibus, arcuatis, in dentes percurrentibus; paniculae axillares, solitariae vel fasciculatae, 5-15 cm. longae, pauciramosae, multiflorae, ramulis dense fulvo-tomen-

tosis, pedicellis 1-1.5 mm. longis; bracteae 2-3 mm. longae, lineari-lanceolatae, patulae, acutae, extus tomentellae, persistentes; sepala ovalia, obtusa, 2 mm. longa, extus dense adpresso-pilosula; petala obovata, ochroleuca, sepalis vix longiora, apice rotundata, ciliolata; filamenta pilosula, superne glabra, petala aequantia, basi dilatata, antheris late oblongis, albis, glabris; ovarium dense pilosum, stylo crasso, petalis longiore, stigmatibus recurvatis.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 543b* (Herb. Field Mus. No. 579,684, type), *543*, *543a*.

Among the Central American species of *Cupania* this may be recognized by the few acuminate leaflets, with spreading pubescence.

Matayba ingaefolia Standl., sp. nov.—Arbor 7.5 m. alta, trunco 10 cm. diam., ramulis gracilibus, teretibus, parce lenticellatis, minute tomentellis vel glabratis, internodiis 1.2-2.5 cm. longis; folia 4-foliolata, petiolo 1.5-3 cm. longo, gracili, rhachi 1.5-2.5 cm. longa, supra canaliculata, sparse et minute puberula, petiolulis 2.5-4 mm. longis; foliola lanceolata vel anguste lanceolato-oblonga, 5-14 cm. longa, 1.5-4.5 cm. lata, longe et anguste acuminata, acumine obtuso vel acutiusculo, basi obtusa, crasse membranacea, integra, supra griseo-viridia, glabra, costa paullo elevata, subtus viridia, ad nervos sparse et minute puberula vel fere omnino glabra, costa valida, nervis lateralibus utroque latere 6-7, elevatis, angulo acuto adscendentibus, leviter arcuatis, prope marginem laxe conjunctis; paniculae axillares, racemiformes, foliis longiores, longipedunculatae, c. 13 cm. longae, laxe multiflorae, ramulis puberulis, pedicellis 3-5 mm. longis; capsula immatura didymo-globosa, sessilis, 7-9 mm. lata, 6-7 mm. alta, bilocularis, loculis saepe inaequalibus, dense brunneo-tomentella.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 900 m., 1928, *G. P. Cooper 597*; Yale No. 12,230 (Herb. Field Mus. No. 579,613, type).

RHAMNACEAE

Rhamnidium caloneurum Standl., sp. nov.—Arbor 23 m. alta, trunco 30 cm. diam., ramulis gracilibus, subteretibus, atrobrunneis, obscure puberulis vel glabratis, internodiis 2-3 cm. longis; folia opposita, petiolis 8-11 mm. longis, gracilibus, sparse puberulis vel glabratis; limbus ellipticus vel elliptico-oblongus, 6-11 cm. longus, 3-4.5 cm. latus, apice abrupte acuminatus, acumine c. 1 cm. longo, obtuso, mucronato, basi obtusus vel rotundatus, chartaceus, supra viridis, nitidus, glaber, nervulis transversis prominulis, subtus pallidus, ad nervos sparse puberulus, costa elevata, tenui, nervis lateralibus utroque latere c. 13, prominentibus, parallelis, arcuatis, adscendentibus, marginem attingentibus, margine revoluto; cymae umbelliformes, axillares, pauciflorae, pedunculo 6 mm. longo, pedicellis crassis, 5-7 mm. longis, sparse puberulis vel glabratis; calyx 6 mm. latus, glaber, lobis 5, triangularibus, acutis, patentibus; bacca

subglobosa, 1 cm. longa et fere aequilata, basi et apice rotundata, laevis, glabra; semen 1, compressum.—Panama: Daytonia Farm, region of Almirante, 1928, *G. P. Cooper 434* (Herb. Field Mus. No. 579,347, type).

A tall tree with long clear bole and no buttresses. Twigs fine and much branched. Fruit greenish red. The wood takes a good polish; it has the odor of peanuts.

The genus *Rhamnidium* has not been reported previously from continental North America. The other species are West Indian and South American.

Colubrina panamensis Standl., sp. nov.—Arbor 7.5-12 m. alta, trunco 10-30 cm. diam., ramulis crassis, subteretibus, ferrugineo-brunneis, novellis cinnamomeo-sericeis, mox glabratis, internodiis 1-5 cm. longis; petioli 1-1.8 cm. longi, graciles, primo sericei, cito glabrati; limbus ellipticus vel elliptico-oblongus, rarius obovato-oblongus, 11.5-21 cm. longus, 4.5-8.5 cm. latus, abrupte breviacuminatus, acumine obtuso, basi rotundatus vel obtusus, interdum abrupte contractus, subtus basi infima biglandulosus, membranaceus, integer, supra laete viridis, glaber, costa impressa, subtus pallidior, ad nervos adpresso-pilosus vel glabratus, costa gracili, elevata, nervis lateralibus utroque latere c. 10, adscendentibus, leviter curvatis, prope marginem laxe conjunctis; flores axillares, fasciculati, pedicellis 2-4 mm. longis, gracilibus, adpresso-pilosulis vel glabratis, statu fructifero ad 10 mm. longis; calyx 1.2 mm. longus, lobis triangularibus, acutis, fere glabris; petala cucullata, obtusa, glabra, calyce longiora; drupa subglobosa, 8 mm. lata, glabra, apice late rotundata, apiculata, parietibus tenuibus.—Panama: Farm 8, near Almirante, 1928, *G. P. Cooper 411* (Herb. Field Mus. No. 579,204, type). Daytonia Farm, region of Almirante, *Cooper 456*. Almirante region, *Cooper 365*.—Costa Rica: Guápiles, alt. 300-500 m., *Standley 37,235*. Finca Montecristo, alt. 25 m., *Standley and Valerio 48,405*. Carmen Station, alt. 30 m., *Standley and Valerio 48,370*.

Known in Panama as "pichypang" and "wild coffee." A tree with low divided trunk, the bole fluted and twisted. Wood used for firewood.

From Panama there are known two other species of *Colubrina*, *C. heteroneura* (Griseb.) Standl., and *C. rufa* Reissek, neither of which is closely related to the plant here described.

VITACEAE

Cissus biformifolia Standl., sp. nov.—Frutex scandens cirrhosus, ramis crassis, obtuse tetragonis, striatis, atrobrunneis, glabratis, minute elevato-lenticellatis, internodiis elongatis; folia ramorum

sterilium longipetiolata, petiolo 4.5 cm. longo, limbo deltoideo-cordato, 13 cm. longo, 10 cm. lato, apice rotundato-obtuso, basi late breviterque cordato, remote et adpresse dentibus apiculatis sinuato-serrato, glabro, 7-nervio, nervis lateralibus utroque latere 5-6, gracilibus, fere rectis, percurrentibus; folia ramorum florigerorum longipetiolata, petiolis gracilibus, 3-3.5 cm. longis, limbo lanceolato, 5-8.5 cm. longo, 1.5-3 cm. lato, versus apicem acutiusculum attenuato, remote sinuato-serrato vel integro, basi 3-nervio; cymae oppositifoliae, 5-7 mm. longo pedunculatae, pedunculis crassis, ramulis paucis, 5-9 mm. longis, minute et sparse puberulis, floribus breviter pedicellatis; calyx 1.5 mm. longus, rotato-campanulatus, breviter 4-lobatus, glaber; petala 4, glabra, 4 mm. longa, oblonga, obtusa.—Panama: Changuinola Valley, Jan. 11, 1924, *V. C. Dunlap 323* (U. S. Nat. Herb. No. 1,319,718, type).

Noteworthy among the Central American species because of the dimorphous.leaves.

Cissus cardiophylla Standl., sp. nov.—Frutex scandens cirrhosus, ramis crassis, teretibus vel obtuse tetragonis, glabris, atrobrunneis, sparse et minute elevato-lenticellatis, internodiis 3-6.5 cm. longis; folia longipetiolata, petiolis gracilibus, 4.5-9 cm. longis, glabris, limbo ovato-cordato, 12-19 cm. longo, 7-12 cm. lato, breviter acuminato, basi profunde cordato vel rarius (in foliis ramorum florigerorum) rotundato vel truncato, integro, basi 5-nervio, crasso, glabro, nervis supra paullo elevatis, costa subtus elevata, crassa, nervis lateralibus (basalibus neglectis) utroque latere 7-8, adscendentibus, leviter arcuatis, prope marginem conjunctis; cymae oppositifoliae, 16 mm. longe pedunculatae, pauciramosae, pauciflorae, c. 7 cm. latae, ramulis glabratis, pedicellis statu fructifero 4-6 mm. longis, incrassatis; baccae sessiles, obovoideae, 10 mm. longae, 8. mm latae, apice rotundatae, basi obtusae, glabrae.—Costa Rica: Along the railroad at Boca Banana, Atlantic coast, February, 1895, *A. Tonduz 9154* (Herb. Field Mus. No. 577,647, type.)

Belonging to the group of *C. sicyoides* L., and related to *C. biformifolia*. Differing from the latter in the relatively narrower, acuminate, deeply cordate leaves.

TILIACEAE

Dicraspidia Standl., gen. nov.—Arbores parvae, pube stellata, ramulis alternis; folia alterna, membranacea, palmatinervia, dentata, subtus incano-tomentosa, supra viridia; stipulae geminae, difformes, intra-axillares, una filiformi, altera magna, foliacea, peltata; flores magni, flavi, supra-axillares, solitarii, longipedicellati; calycis tubus ovario adnatus, limbo 5-partito, lobis triangulari-oblongis, persistentibus, appendicibus filiformibus utroque latere 4-5 instructis, apice filiformi-productis; petala 5, obovata, apice inaequaliter dentata, glabra, perigyna; stamina indefinita, filamentis filiformibus, glabris, antheris oblongis, versatilibus, lineari-oblongis, apice biporo-

sis; ovarium 5-loculare, inferum, apice abrupte contractum, stylo brevi, stigmate crasso, sulcato-lobato, ovulis numerosissimis placentis protrusis affixis; fructus baccatus, bacca depresso-globosa, epicarpio tenui; semina numerosissima, minuta, obovoidea.

Type species, *Dicraspidia Donnell-Smithii* Standl.

Dicraspidia Donnell-Smithii Standl., sp. nov.—Arbor 3–4-metralis, ramulis teretibus, incano-tomentosis, viscido-villosulis et pilis rigidulis patentibus hirsutis, internodiis plerumque 2 cm. longis, stipulis occultis; stipulae difformes, intra petiolum insertae, una filiformi, 1 cm. longa, altera suborbiculari, 2-4.5 cm. longa, apice obtusa, basi subtruncata, dentata, peltatim 5-15 mm. supra basin affixa, sessili, supra stellato-pilosula, subtus incano-tomentosa; folia disticha, petiolis 10-14 mm. longis, stellato-tomentosis et pilosis; limbus oblongus vel lanceolato-oblongus, rarius supra medium paullo latior, 10-18 cm. longus, 3-7 cm. latus, abrupte acuminatus, acumine acuto, basi oblique breviterque cordatus vel rarius rotundatus, membranaceus, inaequaliter et dense serrato-dentatus, dentibus obtusis vel brevibus et rotundatis, supra viridis, stellato-pilosus vel glabratus, nervis non elevatis, subtus densissime incano-tomentosus et sparse pilosus, basi 5–7-nervius, costa utroque latere nervos 4-5 adscendentes percurrentes emittente, nervis omnibus gracilibus, elevatis, nervulis conspicuis, reticulatis; pedicelli 2.5-4.5 cm. longi, supra axillam, saepe in medio internodii, inserti, tomentosi, glanduloso-villosi et hirsuti; hypanthium 8 mm. latum, semiglobosum, dense tomentosum et hirsutum; calycis lobi 10-12 mm. longi, basi 5-6 mm. lati, attenuato-acuminati, extus dense tomentosi et hirsuti, appendice terminali filiformi, c. 1 cm. longa, pilosa, appendicibus lateralibus filiformibus, 7-8 mm. longis; petala 2-2.5 cm. longa, venosa, patentia; antherae 1.2-1.5 mm. longae; ovarium in tota parte libera dense tomentosum, stylo 3-4 mm. longo, basi incrassato, tomentoso, stigmate 2.5 mm. longo; bacca 1.5 cm. lata, 1 cm. longa, dense stellato-tomentosa et hirsuta; semina 0.4 mm. longa, fulva.—Panama: Banks of Changuinola River, Province of Bocas del Toro, February 19, 1924, *V. C. Dunlap 439* (Herb. Field Mus. No. 579,988, type). Lower Changuinola River, 1923, *H. E. Stork 286* (U. S. Nat. Herb.).—Costa Rica: Llanuras del Río Corredor, Golfo Dulce, February, 1897, *H. Pittier 11,172* (U. S.). Boca Culebra on bank of Río Savegre, Pacific Coast, alt. 50 m., January, 1898, *Pittier 12,156* (U. S.).

According to Pittier's notes, the plant is a shrub or small tree with spreading branches and smooth bark. The tree is conspicuous because of its large, bright yellow flowers about 4 cm. broad.

The tree here described is a very curious and interesting one, and the excellent specimens have remained so long—over 30 years—in the herbarium without a name only because it is difficult to determine the proper family to which it should be referred. Captain

John Donnell Smith made a detailed study of the specimens and prepared a partial description many years ago. He recognized the fact that a new generic type was represented. Material sent to Kew elicited from Oliver the opinion that the plant belonged to the Melastomaceae, doubtless because the anthers are dehiscent by apical pores, and because the ovary is inferior.

There is no doubt in the writer's mind, however, that the plant is closely related to the genus *Muntingia*, and that it should be referred, consequently, to the Elaeocarpaceae, or rather to the Tiliaceae, if these two families are to be combined. In general aspect, and in pubescence, leaf form, and gross appearance of the flowers *Muntingia* and *Dicraspidia* are very similar, so much so that their relationship can scarcely be questioned.

Dicraspidia differs essentially from other Tiliaceae in the inferior ovary. This is, of course, an important character. If the plant is not placed in the Tiliaceae, the only alternative is to treat it as the type of a new family. In view of its similarity in all respects to some Tiliaceae, this treatment does not seem advisable, and the plant is best regarded as an aberrant member of the Tiliaceae.

The most striking character of this Central American tree is found in the stipules. The larger leaflike peltate sessile stipules lie flat against the branches and almost wholly conceal them. I know of no other plant with stipules even remotely resembling those of *Dicraspidia*. The long filiform appendages of the calyx lobes also are noteworthy.

Sloanea anisophylla Standl., sp. nov.—Arbor 12-15 m. alta, trunco 45 cm. diam., ramulis gracilibus, teretibus, griseis vel ochraceis, laevibus, minute tomentellis vel glabratis, internodiis 1.5-5.5 cm. longis; folia disticha, petiolis 8-12 mm. longis, teretibus, tomentellis; limbus oblongo-ovatus vel oblongo-ellipticus, 10-14.5 cm. longus, 4.5-7 cm. latus, subabrupte breviterque acuminatus, acumine obtuso, basi valde inaequalis, obtusus vel rotundatus, integer, crasse membranaceus, pallide viridis, supra glaber, nervis vix elevatis, subtus ad nervos inconspicue tomentellus, costa tenui, elevata, basi trinervatus, nervis lateralibus utroque latere c. 5, arcuatis, prope marginem conjunctis; flores numerosi, cymoso-paniculati, paniculis terminalibus, 7-11 cm. longis, ramulis minute et dense stellato-tomentellis, pedicellis crassis, 5-13 mm. longis; alabastra globosa; sepala 5, lanceolato-oblonga, 7-9 mm. longa, versus apicem obtusum attenuata, extus dense stellato-tomentosa, intus glabra; petala lineari-lanceolata, sepalis breviora, glabra; stamina numerosa, congesta, glabra, calyce duplo breviora, filamentis antheras aequantibus vel brevioribus,

antheris lanceolatis, acutis vel acuminatis; ovarium dense tomentellum, superne angustatum; stylus 3 mm. longus, simplex; capsula globosa, 5-locularis, 4 cm. longa, dense tomentella, rugulosa, basi et apice late rotundata, valvis crassis, lignosis; semina in quoque loculo 2-3.—Panama: Region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 352* (Herb. Field Mus. No. 579,723, type).

A tree with spreading drooping full crown and low buttresses. Flowers creamy white. Fruits pendent.

Among the Central American species of *Sloanea*, *S. anisophylla* is easily recognized by its terminal inflorescence, that of the other species being lateral.

Sloanea longicuspis Standl., sp. nov.—Arbor parva 3-4.5 m. alta, trunco 2.5-5 cm. diam., ramulis teretibus, gracilibus, ochraceis, versus apicem dense foliatis; petioli 8-12 mm. longi, supra sulcati, glabri; limbus oblongo-ellipticus, 17-22 cm. longus, 6-8.5 cm. latus, apice abrupte cuspidato-acuminatus, acumine angusto, longe attenuato, apice fere filiformi, 3 cm. longo, integer vel remote et obscure adpresso-serrulatus, infra apicem interdum grosse serratus, basi acutus vel obtusiusculus, pergamentaceus, glaber, supra viridis, costa et nervis lateralibus prominentibus, gracillimis, subtus paullo pallidior, nervis lateralibus utroque latere 8-9, angulo obtuso divergentibus, leviter arcuatis, prope marginem laxe conjunctis; pedicelli axillares, solitarii, c. 1 cm. longi; capsula globosa, 1.7 cm. diam., dense et longe echinata, spinis filiformibus, sparse hirtellis.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 234*; Yale No. 10,587 (Herb. Field Mus. No. 573,106, type). Duplicate in U. S. Nat. Herb., No. 1,318,439.

The species is marked by the narrow, long-cuspidate leaves, and small, densely echinate fruits.

MALVACEAE

Abutilon jaliscanum Standl., sp. nov.—Arbor 4–5-metralis, ramulis gracilibus, teretibus, viridibus, stellato-tomentulosis, internodiis elongatis; petioli 3-10 cm. longi, teretes, minute stellato-tomentulosi, basi paullo dilatati; limbus late ovato-cordatus, 11.5-22 cm. longus, 7.5-15 cm. latus, subabrupte longiacuminatus, acumine attenuato, basi profunde cordatus, sinu lato, aperto, in toto margine crebre et brevissime undulato-dentatus, membranaceus, supra laete viridis, subsparse et minute stellato-pubescens, subtus paullo pallidior, dense et velutine stellato-pubescens, basi palmatim 9-nervius, nervis elevatis, gracilibus, costa nervos c. 5 adscendentes utroque latere emittente; flores axillares, solitarii, pedicellis 4.5-6.5 cm. longis, adscendentibus, stellato-tomentellis, prope apicem articulatis; calyx profunde lobatus, 1.5-2 cm. longus, extus dense stellato-pubescens, intus inferne glaber, superne stellato-pubescens, lobis ovatis, 7-8

mm. latis, acutis vel acuminatis; petala patentia, pallide lutea, rotundato-spathulata, fere 3 cm. longa, c. 2.2 cm. lata, apice late rotundata, inferne abrupte contracta, venosa, extus sparse et minute pilosula, intus glabra; stamina petala subaequantia, columna 1.8 cm. longa, crassa, glabra, staminibus numerosissimis, filamentis 4-5 mm. longis, antheris subglobosis, fere 1 mm. diam.; carpella 12, 2 cm. longa, apice late rotundata, dense stellato-pubescentia.—Mexico: Streamside in dense woods, Hacienda de Ototal, Arroyo de los Palos Blancos, west of San Sebastián, Sierra Madre Occidental, Jalisco, alt. 1,500 m., March 8, 1927, *Ynes Mexia 1842a* (Herb. Field Mus. No. 579,917, type).

In the key to the Mexican species of *Abutilon* published by the writer (Contr. U. S. Nat. Herb. 23: 748. 1923), this plant runs at once to *A. Purpusii* Standl., a species of Veracruz and Chiapas. In that the calyx lobes are oval-ovate and merely mucronate, and the carpels are 2.5-3 cm. long.

Hibiscus anisaster Standl., sp. nov.—Herba erecta 2-3 m. alta, simplex, caulibus teretibus, validis, dense et minute stellato-tomentosis et pilis longioribus intermixtis stellato-hispidulis, internodiis 1.5-3 cm. longis; petioli validi, 7-25 mm. longi, stellato-hispiduli et tomentelli, basi dilatati; limbus ovato-deltoideus, 4.5-9 cm. longus, 4-7.5 cm. longus, 4-7.5 cm. latus, acutus, basi cordatus, dentatus, dentibus crebris, late triangularibus, acutiusculis, crassus, supra viridis, utrinque pilis inaequalibus dense stellato-pubescens, subtus paullo pallidior, palmatim 7-nervius; flores racemosi, racemis 11 cm. longis, terminalibus, remote paucifloris, inferne foliatis, pedicellis 1.5-2.5 cm. longis, validis, superne paullo incrassatis, dense et minute stellato-tomentellis; bracteolae 8, inferne alte (4-6 mm.) inter se connatae, 12-15 mm. longae, oblongo-lineares, 2-3 mm. latae, acutae, stellato-tomentellae et sparse stellato-hispidulae; calyx 16 mm. longus, late campanulatus, extus dense stellato-tomentellus et sparse stellato-hispidulus, intus dense albido-tomentellus, ad medium 5-lobatus, lobis late ovato-oblongis, acutis; petala erecta, convoluto-conniventia, calycem aequantia, apice subtruncata, extus villosula; capsula juvenilis glabra.—Mexico: Openings in woods, lower slopes of the cordilleras, trail from Tepic to Santiago, Nayarit, alt. 1,000 m., September 15, 1926, *Ynes Mexia 634* (U. S. Nat. Herb. No. 1,316,906, type).

An erect simple herb with dark red flowers.

The plant is not closely related to any of the species of *Hibiscus* reported from Mexico.

Pavonia amplifolia Standl., sp. nov.—Arbor parva, ramulis teretibus, viridibus, sparse pilis stellatis sessilibus hispidis; petioli 29-31 cm. longi, sparse pilis stellatis minutis et ceteris multo majoribus adspersis, teretibus, gracilibus; limbus ambitu rotundato-corda-

tus, c. 27 cm. longus et latus, acutus, basi profunde cordatus, sinu c. 6 cm. longo, aperto, breviter 7-lobatus, lobis triangularibus vel latissime triangularibus, acutis vel obtusis, breviter dentatus vel superne serratus, dentibus latissmis, obtusis, supra viridis, punctulis albidis conspersus, ad nervos sparse et minute pilulis stellatis adpressis puberulus, subtus puncticulatus et sparse pilis inaequalibus albidis stellatis conspersus, foliis supremis conformibus sed multo minoribus et breviter petiolatis; flores racemosi, racemis 11-20 cm. longis, prope basin foliis parvis bracteatis, multifloris, superne densis, bracteis superioribus lanceolato-linearibus, deciduis, calyce brevioribus, rhachi et pedicellis dense stellato-hispidulis, pedicellis validis, rigidis, adscendentibus, 1-2 cm. longis; bracteolae 10, basi inter se et cum tubo calycis connatae, lineares, acutae, 8-12 mm. longae, 1-1.5 mm. latae, sparse stellato-puberulae vel glabratae; calyx campanulatus, 8 mm. longus, fere ad medium lobatus, extus sparse stellato-hispidulus et puberulus, intus dense albido-tomentosus, lobis late ovatis, acutiusculis; petala lutea, 1.5 cm. longa, 1 cm. lata, late rotundato-spathulata, apice late rotundata, erecta, convoluta, extus villosula, intus glabra, inferne abrupte unguiculata; stamina longe exserta, columna 2 cm. longa, glabra, antheris late oblongis, 1.5 mm. longis, connectivo incrassato, pollinis granulis magnis, globosis, echinulatis; ovarium depresso-globosum, strigillosum.—Mexico: On stream bank, San Sebastiáan, Arroyo de las Castillas, Sierra Madre Occidental, Jalisco, alt. 1,500 m., January 14, 1927, *Ynes Mexia 1480* (Herb. Field Mus. No. 579,816, type).

A small tree with canary-yellow flowers.

The species is a very distinct one, characterized by the remarkably large, broad leaves, and the long dense flower spikes.

Pavonia chiapensis Standl., comb. nov. *Malache chiapensis* Standl. Contr. U. S. Nat. Herb. 23: 772. 1923.

Pavonia nepetaefolia Standl., comb. nov. *Malache nepetaefolia* Standl. Contr. U. S. Nat. Herb. 23: 772. 1923.

Pavonia Ortegiana Standl., comb. nov. *Malache Ortegiana* Standl. Proc. Biol. Soc. Washington 37: 46. 1924.

Pavonia fulva Standl., comb. nov. *Malache fulva* Standl. Contr. U. S. Nat. Herb. 18: 115. 1916.

Pavonia Maxonii Standl., comb. nov. *Malache Maxonii* Standl. Contr. U. S. Nat. Herb. 18: 116. 1916.

Pavonia penduliflora Standl., comb. nov. *Malache penduliflora* Standl. Contr. U. S. Nat. Herb. 18: 117. 1916.

BOMBACACEAE

Quararibea parvifolia Standl., sp. nov.—Arbor parva, ramulis teretibus, gracilibus, fusco-brunneis, novellis stellato-puberulis, internodiis brevibus; stipulae lineares, 3-4 mm. longae, stellato-puberulae, deciduae; petioli 3-4 mm. longi, minute stellato-puberuli; limbus oblongus vel obovato-oblongus, 5-8 cm. longus, 2-3 cm. latus, apice abrupte breviterque acuminatus, acumine obtuso, basin versus paullo angustatus, basi ipsa rotundata, membranaceus, integer, supra laete viridis, lucidus, ad nervos minute puberulus, nervis et nervulis prominulis, subtus paullo pallidior, glabratus, costa gracili, elevata, nervis lateralibus utroque latere c. 8, adscendentibus, arcuatis, prope marginem laxe conjunctis, nervulis prominulo-reticulatis; flores axillares, solitarii, pedicellis 6-8 mm. longis, bracteolis linearibus; calyx oblongus, 14 mm. longus, 4 mm. latus, basi acutus, minute stellato-lepidotus, intus adpresse villosus, breviter lobatus, lobis 2 mm. longis, rotundatis; columna staminea 5 cm. longa (vel longior?). —Costa Rica: La Palma, Sixaola, March 1, 1924, *V. C. Dunlap 472* (Herb. Field Mus. No. 580,017, type).

Among the Central American species of *Quararibea* this is easily recognized by the small leaves and short calyx.

Matisia obliquifolia Standl., sp. nov.—Arbor 12-15 m. alta, trunco 20-25 cm. diam., ramulis crassis, rimosis, novellis stellato-tomentosis; folia alterna, petiolo gracili, 4.5-5.5 cm. longo, subtereti, stellato-pubescente; limbus oblique oblongus vel rhombico-obovatus, 17-22 cm. longus, 8-11 cm. latus, apice obtusus vel subrotundatus, basi valde inaequalis, uno latere acutus vel anguste rotundatus, altero profunde cordatus, lobo late rotundato, 2.5-4 cm. infra insertionem petioli producto, subcoriaceus, margine undulata, supra secus nervos stellato-puberulus, nervis vix elevatis, subtus secus nervos et nervulos stellato-puberulus, basi 3-nervius, lobo basali majore 4-nervio, costa gracili, elevata, utrinque nervos c. 6 graciles elevatos angulo acuto adscendentes paullo curvatos emittente, nervis lateralibus nervulis transversis parallelis fere rectis connexis, nervulis ultimis arcte reticulatis; flores secus truncum fasciculati, fasciculis multifloris, pedicellis gracilibus, 1.5-2 cm. longis, sparse et minute stellato-puberulis; calyx campanulatus, 6-8 mm. longus, basi rotundatus, extus sparse et minute stellato-puberulus, intus dense sericeus, breviter 3–5-lobatus, lobis rotundatis, 2-2.5 mm. longis, calyce fructifero aucto, 1.5-2 cm. lato, patente; ovarium dense stellato-puberulum, loculis 1-ovulatis; fructus carnosus, ovoideus, 2-2.5 cm. longus, versus apicem contractus, obtusus et minute stellato-puberulus.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 435* (Herb. Field Mus. No. 579,345, type).

A tree with long clear bole and no buttresses. Flowers and fruits in clusters from pads along the main bole.

DILLENIACEAE

Doliocarpus nicaraguensis Standl., sp. nov.—Ramuli robusti, angulosi, recti, brunnei, rimosi, strigillosi vel glabrati, internodiis 1.3-2.2 cm. longis; petioli recti, crassi, 1.3-2 cm. longi, 2-2.5 mm. lati, fere ad basin anguste marginati, subtus sparse strigillosi; limbus ellipticus vel late ellipticus, 8-9.5 cm. longus, 5-7 cm. latus, apice rotundatus et breviter obtuso-productus, basi obtusus vel rotundatus et abrupte decurrens, undulatus, coriaceus, supra griseo-viridis, lucidus, scaberulus, ad nervos minute hispidulus, costa et nervis prominulis, nervulis prominulis, arcte reticulatis, subtus opacus, asperulus, costa crassa, elevata, nervis lateralibus utroque latere c. 8, elevatis, angulo acuto adscendentibus, leviter arcuatis, prope marginem laxe conjunctis, nervulis vix prominulis, dense reticulatis; flores paniculati, paniculis axillaribus, sessilibus, laxe paucifloris, 1.5-2.5 cm. longis, axibus subrigidis, puberulis, bracteis lanceolato-oblongis, pedicellis gracilibus, 4-6 mm. longis, puberulis; sepala 3 mm. longa, rotundato-spathulata, apice rotundata, cava, persistentia, reflexa; stamina indefinita, sepalis breviora; fructus didymus, 6-7 mm. latus, 4 mm. altus, loculis subglobosis, alte connatis, laevibus, glabris, lucidis; styli 1.5 mm. longi.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 277* (Herb. Field Mus. No. 579,852, type).

Doliocarpus nicaraguensis belongs to the section *Pinzona*, which has not been known heretofore from Central America. That section consists of only two species. The Nicaraguan plant is related to *D. coriaceus* (Mart. & Zucc.) Gilg, of Brazil, but the latter has glabrous leaves (according to description), and larger flowers on shorter pedicels.

Saurauia Englesingii Standl., sp. nov.—Ramuli validi, densissime pilis rigidis valde inaequalibus patentibus basi incrassatis ad 4 mm. longis hispidi, internodiis 5-8 mm. longis; petioli crassi, 2-2.5 cm. longi, supra anguste sulcati, dense hispidi; limbus elliptico-obovatus vel oblongo-ellipticus, 19-23 cm. longus, 8.5-10.5 cm. latus, acutus, versus basin paullo angustatus, basi ipsa anguste rotundata, crasse membranaceus, subinteger, supra viridis, asper, pilis brevibus patentibus hispidulus, ad nervos pilis longioribus hispidus, nervis conspicuis, non elevatis, subtus pallidior, dense pilis pallidis gracilibus hirsutus, ad nervos pilis longioribus basi incrassatis hispidus, costa crassa, elevata, nervis lateralibus utroque latere c. 21, adscendentibus, parallelis, fere rectis, versus marginem leviter arcuatis, juxta marginem conjunctis; flores cymoso-paniculati, paniculis axillaribus, dense multifloris, 4.5-7 cm. longis, 5.5-8.5 cm. latis, pedunculo 7.5-10.5 cm. longo, axibus densissime hispidulis, pedicellis crassis, ad 4 mm. longis, furfuraceo-hispidulis; sepala ovali-ovata, 4 mm. longa, obtusa, ciliolata, extus pilis crassis puberulis dense furfuraceo-hispidula, marginibus tenuibus; petala 5 mm. longa, apice late rotundata,

glabra.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 281* (Herb. Field Mus. No. 579,851, type).

The species is characterized by the copious pubescence of chiefly simple hairs, and by small flowers.

THEACEAE

Ternstroemia Pringlei (Rose) Standl., comb. nov. *Taonabo Pringlei* Rose, Contr. U. S. Nat. Herb. 8: 322. 1905.

CLUSIACEAE

Tovomitopsis multiflora Standl., sp. nov.—Arbor glabra 9-11 m. alta, trunco 15-30 cm. diam., ramulis gracilibus, subteretibus, viridescentibus, internodiis 1-3.5 cm. longis; petioli graciles, 1.2-2 cm. longi, supra anguste canaliculati; limbus obovatus vel oblanceolato-oblongus, 9-14 cm. longus, 3.5-6 cm. latus, abrupte acuminatus, acumine acuto vel obtusiusculo, basi acutus vel abrupte angustatus et breviter decurrens, membranaceus, supra viridis, nervis inconspicuis, subtus paullo pallidior, costa gracili, prominente, nervis lateralibus utroque latere c. 12, angulo obtuso divergentibus, gracillimis, arcuatis; paniculae terminales, multiramosae, pedunculatae, pedunculo c. 1.5 cm. longo, laxae, multiflorae, pedicellis gracilibus, 2.7 mm. longis; alabastra ovalia, 2.5 mm. longa, apice rotundata; bracteae calycinae vix 1 mm. longae, apice obtusae.—Panama: Progreso, Province of Chiriquí, 1927, *G. P. Cooper and G. M. Slater 171*; Yale No. 10,524 (Herb. Field Mus. No. 573,086, type), *274* (Yale No. 10,627).

A tree with straight clear bole 6 m. high. The wood is dark brown to red or blood when fresh, finishing deep pink when dry. It is heavy, hard, and dense, with irregular grain, and warps slightly in drying. The tree sometimes has aerial roots. Vernacular names, "coloradito" and "mangle colorado."

The specimens are only in bud, and the dissection of the buds has not been sufficiently satisfactory to make absolutely certain the generic position of the tree. From the other Central American species of *Tovomitopsis*, and especially from *T. nicaraguensis* (Oerst.) Triana & Planch., it differs in the very numerous and small, slender-pediceled flowers.

Clusia Cooperi Standl., sp. nov.—Arbor epiphytica glabra-ramulis crassis, compressis, internodiis 1-4 cm. longis; petioli crassi, 1-2.2 cm. longi, basi incrassati; limbus obovatus vel obovato-ovalis, 12-16 cm. longus, 6-8 cm. latus, apice rotundatus vel obtusissimus, basi oblique acutus, subcoriaceus, concolor, costa subtus elevata, crassa, nervis lateralibus utroque latere c. 40, creberrimis, tenuis,

simis, 2-3 mm. distantibus, angulo lato divergentibus, prominulis, juxta marginem in nervum distinctum collectivum conjunctis; inflorescentiae masculinae terminales, breves, 4 cm. longae, pauciflorae, cymis plerumque trifloris, floribus breviter pedicellatis, pedicellis crassis; alabastra 2 cm. lata, depresso-globosa; bracteae calycinae 6, semiorbiculares, apice rotundatae, 7-9 mm. latae, dense obtuso-tuberculatae; sepala 4, bracteis similia, 1 cm. lata, obtuse carinata; petala 4, crassissime coriacea, decussata, exterioribus angulato-rotundatis, 1.7 cm. latis, 13 mm. longis, basi late rotundatis, apice late rotundatis vel brevissime emarginatis, extus rugulosis, interioribus minoribus, c. 1 cm. latis, cucullatis; torus quadratus, 10 mm. longus, 8 mm. latus; stamina numerosissima, 250-300, libera, antheris sessilibus, erectis, oblongis, apice subemarginatis.—Panama: Bocas Island, near Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 460* (Herb. Field Mus. No. 579,412, type).

Local name given as "poison dogwood." A strangling epiphytic tree. Bark reported poisonous, and used to stupefy fish. A creamy sticky sap runs from the twigs when they are broken.

The species is well marked among the Central American representatives of the genus by the thin many-nerved leaves, very thick, leathery petals, rectangular torus, and very numerous stamens.

Clusia stenophylla Standl., sp. nov.—Arbor glabra 7.5 m. alta, trunco 10 cm. diam., ramulis crassis, obtuse angulatis, interdum compressis, internodiis 1-2 cm. longis; petioli crassi, 6-12 mm. longi, marginati; limbus anguste oblanceolato-oblongus vel obovato-oblongus, 12.5-21.5 cm. longus, 4.5-8 cm. latus, apice late rotundatus, versus basin cuneato-acutam sensim angustatus, coriaceus, supra viridis, costa vix elevata, subtus paullo pallidior, costa crassa, nervis lateralibus utroque latere c. 32, crebris, tenuissimis, inconspicuis, angulo acuto adscendentibus; inflorescentiae terminales, pauciflorae, 2.5-4 cm. longe pedunculatae, pedunculis ancipiti-compressis, crassis, cymis trifloris, 1-2 cm. longe pedunculatis, floribus sessilibus; bracteae calycinae 2, basi colalitae, rotundatae, adpressae; sepala 4, decussata, tenuia, exterioribus late ovatis vel rotundatis, 8 mm. longis et latis, apice rotundatis, interioribus 10-11 mm. longis, 5-7 mm. latis, ovalibus, apice rotundatis; petala 4, subaequalia, oblongo-ovalia, c. 12 mm. longa et 7 mm. lata, apice rotundata, tenuia; torus 2.5 mm. longe stipitatus, 2 mm. crassus; stamina c. 100, antheris oblongis, 1.5 mm. longis, apice rotundatis, filamentis liberis, antheris subaequalibus, crassis, glabris.—Panama: Bocas Island, near Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 468* (Herb. Field Mus. No. 579,404, type).

Flowers fragrant, the petals white. Sap yellow and sticky.

Related, perhaps, to *C. minor* L., but in that the flowers are larger, the petioles longer, and the lateral nerves of the leaves much less numerous.

VIOLACEAE

Amphirrhox longifolia Spreng.—This genus of the Violaceae has not been recorded previously from North America. Specimens collected by Cooper (No. 605; Yale No. 12,238) at Buena Vista Camp on Chiriquí Trail, Panama, at 375 m., belong to the genus, and, apparently, are to be referred to the South American *A. longifolia*. The specimens were taken from a tree of 11 m., with a trunk diameter of 12.5 cm. The flowers are creamy white and faintly fragrant.

QUIINACEAE

Quiina panamensis Standl., sp. nov.—Arbor 15-metralis, trunco 25-30 cm. diam., ramulis gracilibus, teretibus, ochraceis, sparse puberulis vel glabratis, internodiis 1.5-3 cm. longis; folia opposita vel quaterna, petiolis tenuibus, c. 1 cm. longis, glabratis, fere ad basin marginatis, basi ipsa incrassata; limbus oblongo-ellipticus, 8-13 cm. longus, 3.5-5 cm. latus, apice abrupte cuspidato-acuminatus, acumine 1.2-2 cm. longo, integro, obtuso, basi abrupte cuneato-angustatus, longe decurrens, crasse membranaceus, glaber, remote adpresso-crenatus, supra glaucescens, subtus pallide viridis, nervis utrinque prominentibus, lateralibus tenuibus, utroque latere c. 11, adscendentibus, arcuatis, percurrentibus; stipulae lineari-subulatae, 7-9 mm. longae, rigidae, virides, puberulae; racemi (non perfecte evoluti) terminales, pauciflori, rhachi adpresso-pilosula, bracteis inferioribus stipulis similibus, superioribus linearibus vel linearilanceolatis, alabastra aequantibus, adpresso-pilosulis; alabastra obovoidea, 2.5 mm. longa; flores brevipedicellati; sepala 4, exterioribus obovatis, apice rotundatis, extus minute puberulis.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 609*; Yale No. 12,242 (Herb. Field Mus. No. 579,653, type).

Flowers white. Wood deep chocolate-brown when freshly cut.

The family Quiinaceae has not been reported previously from continental North America. The Panama species is related to *Q. jamaicensis* Griseb., in which the flowers are long-pedicellate, the sepals ciliate, and the stipules broader.

FLACOURTIACEAE

Carpotroche subintegra Standl., sp. nov.—Arbuscula vel frutex 3 m. altus, trunco 2.5 cm. diam., ramulis gracilibus, teretibus, ochraceis, minute strigillosis vel fere glabris, internodiis brevibus; petioli graciles, 1.2-2.5 cm. longi, apice incrassati; limbus anguste oblongus vel oblanceolato-oblongus, 16-23 cm. longus, 4-6.5 cm. latus, longe falcato-acuminatus, acumine 2-3 cm. longo, attenuato-acuto, basi obtusus, membranaceus, versus apicem remote serratus,

dentibus brevibus, apiculatis, adpressis, glaber, supra viridis, subtus paullo pallidior, costa tenui, elevata, nervis lateralibus utroque latere c. 9, tenuibus, adscendentibus, inaequalibus, fere rectis, remote a margine laxe conjunctis; pedunculi axillares, 1-2 mm. longi, 1–4-flori, pedicellis 1-2 mm. longis, minute adpresso-pilosulis, bracteis filiformibus, pedicellos vix superantibus; alabastra subglobosa, 4 mm. lata; sepala exteriora minute sericea.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 638*; Yale No. 12,271 (Herb. Field Mus. No. 579,244, type).

Evidently related to *C. glaucescens* Pittier, of Panama, in which the leaves are glaucescent and 10-13 cm. wide.

BEGONIACEAE

Begonia nicaraguensis Standl., sp. nov.—Herba acaulis; petioli graciles, 12-17 cm. longi, dense pilis longis brunnescentibus intertextis tenuibus villosi; limbus oblique rotundato-ovatus, 11-16 cm. longus, 7-11 cm. latus, apice acutus, basi oblique cordatus, breviter et remote lobatus, lobis late triangularibus, acutis vel acutiusculis, repando-denticulatis, tenuis, supra viridis, sparsissime pilis longis gracilibus pilosus, subtus praecipue ad nervos pilis longis brunneis tomentosus, basi 9-nervius; pedunculus c. 32 cm. longus, 4-5 mm. crassus, tenuiter brunneo-tomentosus; flores cymosi, cymis dichotomis, paucifloris, 9-11 cm. longis, bracteis rotundato-obovatis, 1.2-2 cm. longis, apice rotundatis, longipilosis, scariosis; pedicelli gracillimi, 5-8 mm. longi, sparse pilosi; sepala ovato-rotundata, 7-9 mm. longa, apice rotundata, basi late rotundata vel subcordata, glabra.—Nicaragua: On rocky cliffs and boulders in shade near Miranda Bodega, at the confluence of Tunky and Murciélago creeks, region of Bragman's Bluff, alt. 25 m., February 23, 1928, *F. C. Englesing 149A* (Herb. Field Mus. No. 579,726, type), *149B*.

"Flor de piedra." Flowers said to be pinkish white. Reported as common in this region on rocky hills and mountains above the level of the coastal plain.

Begonia Mexiae Standl., sp. nov.—Herba perennis e rhizoma crassa acaulis; petioli carnosi, crassi, 15-20 cm. longi, 3-4 mm. crassi, squamis magnis brunneis scariosis laciniatis vel partitis onusti; limbus oblique rotundato-ovatus, c. 19 cm. longus et 13 cm. latus, acutus, basi profunde cordatus, sinu aperto, angusto, 2.5 cm. longo, lobis basalibus late rotundatis, interdum brevissime uno latere unilobatus, margine remote et obscure denticulato vel integro, basi 9-nervius, tenuis, supra viridis, subtus paullo pallidior, utrinque glaber, breviter villoso-ciliatus; cymae laxe multiflorae, bisexuales, floribus fertilibus paucis, 12-18 cm. longae, dichotomae, longipedunculatae, pedunculo 15-23 cm. longo, fere glabro, pedicellis gracillimis, 4-10 mm. longis, glabris; bracteae caducae, bracteolis late

ovatis, oppositis, infra medium pedicelli insertis, acuminatis, scariosis, sepala vix attingentibus; flos masculus: sepala ovato-rotundata, 5 mm. longa, 5-6 mm. lata, obtusa, basi late rotundata, rosea, glabra, venosa; stamina numerosa, filamentis brevibus, liberis; capsula 9 mm. longa, 3-angulata, angulis 2 anguste alatis, tertio in alam albam acutiusculam tenuem venosam protracto.—Mexico: San Sebastián, Hacienda del Ototal, Arroyo de los Tapeistes, Sierra Madre Occidental, Jalisco, alt. 1,425 m., March 3, 1927, *Ynes Mexia 1792* (Herb. Field Mus. No. 579,895, type).

Begonia Mexiae resembles in general appearance *B. manicata* Cels, but differs from that species in its smaller flowers and scaly indument.

Begonia ornithocarpa Standl., sp. nov.—Herba perennis e radice tuberosa, caule erecto, simplici, c. 14 cm. alto, dense pilis longis gracilibus patentibus villoso, internodiis elongatis; folia pauca, longipetiolata, inaequalia, superioribus minoribus, petiolo 0.8-5.5 cm. longo, villoso; limbus late et peroblique ovatus, 4.5-10 cm. longus, 3-8 cm. latus, acutus vel acuminatus, basi breviter cordatus, sinu aperto, breviter 7–9-lobatus, lobis late triangularibus, acutis vel obtusis, inaequaliter dentatis, dentibus acutis, subulato-apiculatis, basi 7–9-nervius, supra viridis, pilis gracilibus patentibus villosus, subtus paullo pallidior, pilis longioribus densius villosus; cymae femineae laxe 4-florae (statu fructifero), axillares, longipedunculatae, pedunculo 10.5-13 cm. longo, sparse villoso, dichotomae, ramulis primariis 2.5 cm. longis, pedicellis gracillimis, 3-4.5 cm. longis, sparse pilosis; capsula 10-12 mm. longa, trigona, sparse villosa, angulis 2 anguste alatis, tertio in alam horizontalem tenuem venosam protracto, ala acuta, 1.5-2 cm. longa, margine inferiore serulato, ciliato.—Mexico: Steep shaded ravine, near stream, Cerro de San Juan, west of Tepic, Nayarit, September 19, 1926, *Ynes Mexia 691* (Herb. Field Mus. No. 579,902, type).

LYTHRACEAE

Cuphea salvadorensis Standl., comb. nov. *Parsonsia salvadorensis* Standl. Journ. Washington Acad. Sci. 14: 240. 1924.

LECYTHIDACEAE

Couroupita parviflora Standl., sp. nov.—Arbor alta, ramulis crassis, dense foliatis; petioli crassi, c. 1.5 cm. longi, glabri; limbus cuneato-obovatus, 14-19 cm. longus, 6.5-9 cm. latus, apice late rotundatus, versus basin acutam sensim cuneato-attenuatus, integer, subcoriaceus, supra obscure viridis, subtus pallidior, in axillis nervorum lateralium breviter barbatus, costa crassissima, nervis lateralibus utroque latere c. 17, adscendentibus, fere rectis, crassis, elevatis, prope marginem conjunctis; racemi paniculati, 5-20 cm.

longi, axibus 5-6 mm. crassis, brunneis, rugulosis, sparse lenticellatis, tenuiter tomentulosis, multifloris, pedicellis crassis, 2-4 mm. longis; calyx 1.5 cm. latus, extus minute puberulus, tubo late turbinato, 5 mm. longo, obtuse 6-angulato; sepala 6, late ovata, apice rotundata, 5 mm. longa, intus sparse et minute puberula; petala crassa, inaequalia, rotundata, sessilia, glabra, concava, c. 1.5 cm. longa et lata; discus staminifer in ligulam cucullatam petaloideam 1.5 cm. longam productus; antherae oblongo-ovatae, 1 mm. longae, apice obtusae, loculis basi paullo separatis, filamentis 1.5-2 mm. longis, versus basin incrassatis, glabris; ovarium glabrum, stylo brevi, conico, stigmate parvo, 6-costato.—Panama: Changuinola Valley, 1927, *G. P. Cooper and G. M. Slater 11* (U. S. Nat. Herb. No. 1,316,760, type).

Related to *C. odoratissima* Seem., of Panama. In that species the pedicels are 13-19 mm. long, the leaves oblong and acuminate, and the flowers much larger.

Couratari panamensis Standl., sp. nov.—Arbor magna 30-metralis, trunco 90-120 cm. diam., ramulis crassis, apice dense foliatis, adpresso-pilosulis; petioli 8-10 mm. longi, involuti, sparse hirtelli; limbus ovalis vel rotundato-ovalis, 5-10.5 cm. longus, 4-6.5 cm. latus, apice late rotundatus vel late et obtuse apiculatus, basi rotundatus, subcoriaceus, obscure et crasse sinuato-crenatus, supra viridis, lucidus, ad costam hirtellus, nervulis prominulis, subtus ad costam sparse et breviter fasciculato-hirtellus, costa crassa, nervis lateralibus utroque latere c. 14, angulo lato adscendentibus, tenuibus, prominentibus, fere rectis, prope marginem conjunctis, nervulis prominulis, laxe reticulatis; pyxis lignea, scyphiformis, cylindrica, obscure trigona, 11.5-15 cm. longa, 5 cm. lata, laevis, basi obtusa et contracta, versus orificium paullo angustata, margine calycari 7-14 mm. ab orificio distante, zona supracalycari inde paullo extrorsum flexa; operculum non visum.—Panama: Cricamola Valley, region of Almirante, 1928, *G. P. Cooper 542* (Herb. Field Mus. No. 579,346, type).

The material at hand consists of the tip of a branch, bearing four leaves, and of three slightly weathered, empty fruits. The fruits are much like those of *C. macrocarpa* Mart., as illustrated in the Flora Brasiliensis.

The genus *Couratari* is new for the Central American flora.

Gustavia rhodantha Standl., sp. nov.—Arbor parva 4.5 m. alta, trunco 5 cm. diam., ramulis teretibus, glabratis, ad apicem dense foliatis; petioli graciles, 1-6.5 cm. longi, supra plani, glabri; limbus anguste oblongus vel lanceolato-oblongus, 12-23 cm. longus, 4-7 cm. latus, apice perfecto non viso, basi acutus vel abrupte attenuatus et decurrens, remote et obscure adpresso-crenulatus, crasse membranaceus, glaber, nervis in pagina superiore vix elevatis, subtus

paullo pallidior, nervis elevatis, tenuibus, lateralibus utroque latere c. 12, adscendentibus, fere rectis, prope marginem conjunctis, nervulis prominulis, reticulatis; flores pauci (c. 3), ad apicem rami fasciculati, pedunculis 7-10 mm. longis, ut pedicellis minutissime puberulis, pedicellis 1-2 cm. longis, crassis, bracteolis connatis, 4 mm. longis, parte libera deltoidea, acuta; calyx c. 1.5 cm. latus, extus minute puberulus, tubo tereti, late turbinato, limbo fere integro, ciliolato, intus glabro; petala 8, subaequalia, rosea, anguste oblonga, c. 6.5 cm. longa et 2 cm. lata, apice rotundata, extus minute puberula; stamina numerosissima, ad marginem disci inserta, disco 1.5 cm. alto, glabro, filamentis tenuibus, c. 2 cm. longis, glabris, antheris oblongis, acutiusculis, 2.5 mm. longis, loculis parallelis, poris apicalibus, obliquis; ovarium apice puberulum, 1 cm. latum, stylo brevi, conico.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 633*; Yale No. 12,266 (Herb. Field Mus. No. 579,238, type).

This species is remarkable for its large showy flowers. Among the Central American species[1] it is related most closely to *G. nana* Pittier[1], whose flowers are not known. The leaves of *G. nana* are much larger than those of *G. rhodantha*, and their nerves more numerous.

Gustavia integrifolia Standl., sp. nov.—Arbor; folia sessilia, oblongo-oblanceolata, 70 cm. longa, 18 cm. lata, apice abrupte acuminata, acumine 2.5 cm. longo, angusto, attenuato-acuminato, basin versus longe attenuata, integra vel obsolete undulata, subcoriacea, glabra, supra viridia, nervis elevatis, subtus paullo pallidiora, costa crassa, prominente, ochracea, sulcata, nervis lateralibus utroque latere c. 40, angulo lato divergentibus, rectis, versus apicem abrupte curvatis, juxta marginem conjunctis, nervulis transversis subparallelis, prominulis; flores 3 cm. lati, breviter racemosi, racemis umbelliformibus, 3–9-floris, pedicellis c. 1 cm. longis, validis, glabris, bracteis late ovatis, 3 mm. longis, acuminatis, brunneis; hypanthium turbinatum, 5 mm. longum, apice 4 mm. latum, glabrum; calyx profunde lobatus, 5 mm. longus, lobis inaequalibus, apice late rotundatis vel truncatis, glabris; petala 4, obovato-oblonga, 1.5-2 cm. longa, 7-10 mm. lata, apice rotundata, crassa, glabra; androphorum 8 mm. longum, 11 mm. latum, glabrum.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 225* (Herb. Field Mus. No. 579,727, type).

Related to *G. superba* (Kunth) Berg, a species common in Panama and Costa Rica, but in that the leaves are serrate, and the large flowers, 8-12 cm. broad, on pedicels 2-6 cm. long, have eight petals.

COMBRETACEAE

Bucida macrostachya Standl., sp. nov.—Ramuli teretes, grisei, rimosi, foliiferis insigniter incrassatis, 10-12 mm. crassis, densissime

[1]See Pittier, Contr. U. S. Nat. Herb. 26: 3. 1927.

foliatis; folia alterna, ad apices ramulorum congesta, petiolo valido, 4-4.5 cm. longo, dense pilis fulvis subadpressis sericeo; limbus ellipticus vel obovato-ellipticus, 12-17.5 cm. longus, 5-9 cm. latus, apice obtusus vel rotundatus, apiculatus, versus basin obtusam paullo angustatus, integer, crasse membranaceus, supra glaber vel ad nervos sparse pilosulus, punctulis albidis crebris conspersus, costa impressa, subtus ad nervos pilis brevibus adpressis vel subpatentibus pilosulus, costa gracili, elevata, nervis lateralibus utroque latere c. 16, gracilibus, elevatis, angulo acuto adscendentibus, fere rectis, prope marginem laxe reticulato-conjunctis, nervulis reticulatis, prominulis; spicae numerosae, axillares, pedunculo 3-5 cm. longo, dense pilis brevibus patentibus brunnescentibus piloso, spica ipsa 4-9 cm. longa, densissime multiflora, 12-15 mm. crassa, floribus sessilibus; fructus immaturus oblique ovoideus, 5-6 mm. longus, obtuse angulatus, acutus, tomentosus; calyx persistens, turbinato-campanulatus, 3 mm. latus, 2 mm. altus, extus tomentosus, remote denticulatus; stamina exserta, filamentis gracilibus, glabris, antheris ovoideis, apiculatis; stylus exsertus, pilosus.—Guatemala: El Rancho, December 28, 1907, *W. A. Kellerman 7744* (Herb. Field Mus. No. 224,629, type).

The only other species known from Central America, *B. buceras* L., differs in having small leaves with fewer curved lateral nerves, and short, less dense flower spikes.

RHIZOPHORACEAE

Cassipourea podantha Standl., sp. nov.—Arbor vel frutex 3-18 m. altus, trunco interdum 30-45 cm. diam., ramulis gracilibus, minute strigillosis vel glabratis, internodiis 1-4 cm. longis; petioli 6-8 mm. longi, strigillosi vel glabrati, supra late canaliculati; limbus oblongo-ellipticus vel lanceolato-oblongus, 8.5-12.5 cm. longus, 3.5-4.5 cm. latus, abrupte longiacuminatus, acumine 1-2 cm. longo, recto vel falcato, plerumque acuto, basi sensim vel abrupte angustatus, acutus, breviter decurrens, membranaceus vel crasse membranaceus, statu juvenili sparse strigillosus, mox glaber, concolor, integer vel obsolete sinuato-serrato, costa subtus tenui, elevata, nervis lateralibus tenuibus, utroque latere 6-7, arcuatis vel fere rectis, remote a margine arcuato-conjunctis; pedicelli axillares, fasciculati, pauci, 2-3 mm. longi, strigillosi; calyx glaber, 3.5-4 mm. longus, basi in stipitem 1-1.2 mm. longum abrupte contractum, lobis 5, ovatis, acutis, intus sericeis, tubo paullo brevioribus, erectis; ovarium sericeum, stylo gracili, 4 mm. longo, dense sericeo, e calyce exserto.—Panama: Cricamola Valley, region of Almirante, 1928, *G. P. Cooper 504* (Herb. Field Mus. No. 579,426, type). Bocas Island, *Cooper 462*. Buena Vista Camp on Chiriquí Trail, alt. 375 m., *Cooper 608* (Yale No. 12,241).

Vernacular name, "goatwood." Wood very hard and durable, used for piles in dock. A tree with straight bole and no buttresses.

The notes with one of the specimens state that the corolla is orange and the anthers yellow, but neither is present on the specimens.

C. elliptica Poir., the only species reported heretofore from Central America, has a sessile, not stipitate, more or less sericeous calyx.

Cassipourea macrodonta Standl., sp. nov.—Arbor parva 7 m. alta, trunco 10 cm. diam., ramulis gracilibus, teretibus, ochraceis vel pallide brunneis, sparse strigillosis vel glabratis, internodiis 3-6 cm. longis; petioli 4-5 mm. longi, graciles, sparse strigillosi; limbus ovato-ellipticus, 9.5-11.5 cm. longus, 4-5.5 cm. latus, subabrupte longiacuminatus, basi acutus vel obtusus et saepe breviter contractus, margine fere ad basin grosse et remote serrato, dentibus 2-3 mm. longis, 8-15 mm. distantibus, obtusis vel acutiusculis, saepe salientibus, crasse membranaceus, supra glaber, subtus nitidulus, ad nervos sparse strigillosus vel fere omnino glaber, costa tenui, elevata, nervis lateralibus utroque latere 6-7, divaricato-adscendentibus, fere rectis, remote a margine arcuato-conjunctis; flores axillares, dense fasciculati, pedicellis crassis, 1-2 mm. longis, strigillosis; calyx extus sparsissime strigillosus, tubo 2.5 mm. longo, campanulato, basi rotundato, in stipitem 1-1.5 mm. longum protracto, lobis 5, triangulari-ovatis, 2 mm. longis, patentibus vel reflexis, acutis, intus dense cinereo-strigillosis; ovarium glabrum, apice depressum, stylo 6-7 mm. longo, dense strigoso.—Panama: Changuinola Valley, March 16, 1924, *V. C. Dunlap 563* (Herb. Field Mus. No. 580,037, type), *447*. Daytonia Farm, region of Almirante, *Cooper 446, 447*.—Costa Rica: La Palma, Sixaola Valley, *Dunlap 469*.

A small tree with spreading crown and slanting bole; flowers pale yellow. From both *C. elliptica* and *C. podantha* this differs in the coarsely serrate leaves, glabrous ovary, short pedicels, and numerous flowers.

MYRTACEAE

Eugenia cricamolensis Standl., sp. nov.—Arbor 11 m. alta, trunco 15 cm. diam., ramulis crassis, teretibus, vetustioribus ochraceis, novellis dense et minute sericeis, internodiis 1-3 cm. longis; petioli crassi, 3-5 mm. longi, minute sericei; limbus elliptico-oblongus, 7.5-8.5 cm. longus, 2.7-4 cm. latus, apice abrupte et breviter acuminatus, acumine obtuso, 1 cm. longo vel breviore, basi obtusus et interdum abrupte contractus, subcoriaceus, supra luteo-viridis, glaber, costa impressa, nervis lateralibus inconspicuis, subtus densissime pilis minutis sericeus, indumento nitente, brunnescente vel glauco, costa crassa, elevata, nervis lateralibus utroque latere c. 12, angulo lato divergentibus, leviter arcuatis, prope marginem in nervum collectivum conjunctis; flores ad nodos defoliatos fasciculati, numerosi, pedicellis 6-8 mm. longis, minute sericeis; hypanthium obovoideum, 2 mm. longum, sericeum; sepala ovalia, 2-2.5 mm. longa,

apice rotundata, glanduloso-punctata, extus minute sericea; filamenta glabra; ovarium ad apicem puberulum.—Panama: Kankintoe, 10 miles above Holstein, Cricamola Valley, 1928, *G. P. Cooper 511* (Herb. Field Mus. No. 579,631, type).

Local name, "white cacique." A tree, the bole excentric at base, with low buttresses or swellings. Fruit (not seen by the writer) 2.5 cm. in diameter, with 1 or 2 large seeds.

Eugenia pleurocarpa Standl., sp. nov.—Frutex vel arbor parva 2-5 m. alta, ramulis gracilibus, subteretibus, cinnamomeis, novellis brunneo-sericeis, cito glabratis, internodiis plerumque 1.3-4 cm. longis; petioli 5-8 mm. longi, graciles vel crassiusculi, brunneo-sericei vel glabrati, supra sulcati; limbus oblongo-ovatus vel elliptico-oblongus, 3.5-10 cm. longus, 2-4.5 cm. latus, versus apicem obtusum angustatus, basi obtusus vel rotundatus, subcoriaceus, statu juvenili utrinque pilis brevibus cinereis et brunneis strigoso-sericeus, cito glabratus, supra viridis, nervis vix prominulis, subtus pallidior, minute puncticulatus, costa elevata, nervis lateralibus utroque latere 8-11, prominulis, angulo lato divergentibus, fere rectis, prope marginem conjunctis; flores solitarii vel breviter racemosi, racemis axillaribus, 3–5-floris, pedicellis fructiferis 4-8 mm. longis, glabratis; bacca ellipsoideo-oblonga, c. 2 cm. longa et 1 cm. crassa, apice obtuso calyce persistente coronata, basi contracta, 10-costata, costis gracilibus, saepe glaucescens, glabra, puncticulata; calycis lobi rotundati, 2.5 mm. longi, extus sparse adpresso-pilosuli vel glabrati, apice rotundati, puncticulati; semen 1, oblongum, 15 mm. longum, 8 mm. latum.—Mexico: Wooded mountain slope, Quimixto, Jalisco, alt. 70 m., November 29, 1926, *Ynes Mexia 1176* (Herb. Field Mus. No. 579,920, type). San Sebastián, trail to El Ranchito, Jalisco, alt. 1,500 m., *Mexia 1446* (U. S. Nat. Herb.). Hacienda del Ototal, Arroyo de los Palos Blancos, west of San Sebastián, alt. 1,500 m., *Mexia 1843a* (U. S. Nat. Herb.).

"Chapirole." Fruit said to be edible.

The species is noteworthy because of the long narrow costate fruit.

Eugenia Mexiae Standl., sp. nov.—Arbor parva 4–5-metralis, ramulis crassis, teretibus, rimosis, pallide brunneis, internodiis elongatis; petioli crassi, 5-7 mm. longi, adpresso-tomentelli; limbus oblongus vel oblanceolato-oblongus, 8.5-16 cm. longus, 3.5-6 cm. latus, apice rotundatus, versus basin obtusam paullo angustatus, coriaceus, supra glabratus, nervis vix elevatis, subtus pallidior, pilis albidis leviter adpresso-tomentellus, costa crassa, elevata, nervis lateralibus utroque latere 8-13, plerumque angulo lato divergentibus, fere rectis, prope marginem conjunctis; flores breviter racemosi, 3–5-floris, 3-4 cm. longis, pedicellis crassis, 3-8 mm. longis, cinereo-tomentellis; bacca ellipsoidea, 1.5 cm. longa, 1 cm. lata, basi et apice rotundata, cinereo-tomentella vel glabrata, calyce persistente

coronata; calycis lobi 2.5 mm. longi, rotundati, extus tomentelli; semen 1.—Mexico: Steep rocky wooded hillside rising abruptly above the ocean, south of Puerto Vallarta, Jalisco, alt. 100 m., November 25, 1926, *Ynes Mexia 1129* (Herb. Field Mus. No. 579,921, type).

A relative of *E. avicenniae* Standl., of Guerrero, but that species differs in its smaller and narrower leaves and small fruits.

MELASTOMACEAE

Cryptophysa Standl. & Macbr., gen. nov.—Frutices setosi; folia opposita, membranacea, obsolete denticulata vel fere integra, petiolo superne vesiculifero, vesiculo secundum partem inferiorem costae extenso, angusto; flores parvi, pedicellati, cymoso-paniculati, paniculis terminalibus, laxe multifloris; calyx in albastro clausus, setulosus, limbo simplici, calyptraeformi, acuminato, basi circumscisso; petala 6, obovata, apice cuspidulata; stamina 12, aequala, filamentis, crassis, glabris, antheris oblongis, ractis, 1-porosis, connectivo basi non producto, inappendiculato; ovarium totum adhaerens, 6-loculare, stylo brevi, glabro, stigmate peltato; fructus non visus.

Type species, *Cryptophysa setosa* Standl. & Macbr.

Cryptophysa setosa Standl. & Macbr., sp. nov.—Ramuli graciles, 2-2.5 mm. crassi, tetragoni, minute furfuraceo-puberuli et dense pilis rigidis fulvescentibus patentibus 3-5 mm. longis setosi, internodiis elongatis; petioli graciles, parte nuda 1.5-5 cm. longa, dense setosi, supra vesiculiferi, vesiculo infra limbum 5-10 mm. longo, basi acuto, 5-6 mm. lato, viridi, setoso, superne in limbo secus costam c. 2.5 cm. extenso, superne sensim angustato; limbus late ellipticus, 11.5-21 cm. longus, 6.5-10.5 cm. latus, apice obtusus vel rotundatus et abrupte acuminatus, rarius acutus et longius acuminatus, acumine ad 1.5 cm. longo, basi anguste rotundatus, margine obsolete undulato-denticulato vel fere integro, tenuiter membranaceus, utrinque pilis gracillimis longis patentibus setosus, supra viridis, subtus pallidus, 7-plinervius, nervis gracillimis, nervulis transversis non conspicuis, angulo recto abeuntibus, remotis; paniculae solitariae vel geminatae, 3-5.5 cm. longae, laxae, pedunculo gracili, 2-4 cm. longo, ramulis sparse puberulis et dense setosis, pedicellis 1.5-4 mm. longis, setosis; alabastra 4-4.5 mm. longa, obovoideo-ovalia, setulosa, apice subulato-acuminata; calyx campanulatus, 2 mm. longus, truncatus; petala alba, 4.5-5 mm. longa, apice cuspidato-acuminata, glabra; filamenta petalis dimidio breviora, antheris flavis, fere 2 mm. longis.—Panama: Buena Vista Camp on Chiriquí Trail, 1928, *G. P. Cooper 219* (Herb. Field Mus. No. 579,293, type).

The plant here described as the type of a new genus can not be referred satisfactorily to any of the recognized genera of the

Melastomaceae. Although the fruit has not been seen, there is every reason for presuming that it is baccate. Because of the circumscissile calyx, *Cryptophysa* evidently is related to *Conostegia*, but in that genus the leaves are never furnished with inflated vesicles, and the petals are rounded or emarginate at apex.

In *Cryptophysa* the vesicles are unusual in extending not only well down on the petiole but also far up the costa into the leaf blade as far as the point of origin of the uppermost pair of lateral nerves.

Prosanerpis panamensis Blake & Standl., sp. nov.—Frutex epiphyticus, repens, ramulis gracilibus, teretibus, minute ferrugineo-puberulis, in fere tota longitudine radiculas emittentibus, internodiis 3.5-5 cm. longis; folia paris maxime inaequalia, minoribus brevipetiolatis, petiolo gracili, 1.5-6 cm. longo, puberulo, limbo ovato vel late ovato, 9-17.5 cm. longo, 6-9 cm. lato, subabrupte acuminato, basi breviter cordato, inaequaliter dentato, ciliato, 7-nervio, supra laete viridi, minutissime scaberulo, subtus pallidiore, ad nervos ferrugineo-puberulo; cymae pauciflorae, e ramis defoliatis nascentes, pedicellis 3-4 mm. longis, puberulis; bacca subglobosa, 4 mm. diam., longe hirsuta; calycis lobi 4, persistentes, lanceolato-oblongi, acuti, paucidentati, longe ciliati.—Panama: Cerro de Garagará, Sambú Basin, southern Darién, alt. 500-975 m., February 7, 1912, *H. Pittier 5611* (U. S. Nat. Herb. No. 715,883, type).

The genus *Prosanerpis* Blake[1] was based upon a single species, *P. trichocalyx*, from the Department of Copán, Honduras. The Honduran species differs from the present one in having hispid branches, and leaves which are rounded at base and spreading-pilose beneath.

Conostegia jaliscana Standl., sp. nov.—Frutex 1 m. altus, ramulis crassis, subteretibus vel obtuse tetragonis, brunneis, novellis pilulis brunnescentibus stellatis dense furfuraceo-tomentellis, serius glabratis; internodiis 1-3 cm. longis; petioli crassi, 5-12 mm. longi, dense et adpresse furfuraceo-tomentosi; limbus elliptico-oblongus, 7-14.5 cm. longus, 2.5-5 cm. latus, apice acutus et caudato-acuminatus, acumine c. 1 cm. longo, angusto, obtuso, basi obtusus vel acutiusculus, 5-plinervius, crasse membranaceus, serrulatus, dentibus aristulo subulato praefixis, supra viridis, primo pilis rigidis simplicibus sparse hispidus, cito glabratus, subtus vix pallidior, ad nervos furfuraceo-tomentosus, mox glabratus, nervis gracilibus, elevatis, nervulis transversis angulo fere recto abeuntibus, numerosis, parallelis, prominentibus; flores cymoso-paniculati, paniculis terminalibus, 4.5-6 cm. longis, paucifloris, pedunculo crasso, 1-3 cm. longo, ramulis primariis 3-13 mm. longis, sparse furfuraceo-puberulis, cymulis plerumque trifloris, pedicellis crassis, 2.5 mm. longis; alabastra oblongo-

[1]Contr. U. S. Nat. Herb. 24: 15. 1922.

ovoidea, 10-13 mm. longa, apice acuminata, obtusa, glabra vel basin versus sparse furfuraceo-puberula, paullo infra medium circumscissa; calyx campanulatus, 5 mm. longus; petala 5, alba, 1 cm. longa, apice rotundata, glabra; stamina exserta, filamentis gracilibus, glabris, 2.5 mm. longis, antheris anguste oblongis, 3 mm. longis, apice subtruncatis; stylus 4.5 mm. longus, glaber.—Mexico: Along stream, Arroyo de los Hornos, Hacienda del Ototal, east of San Sebastián, Sierra Madre Occidental, Jalisco, alt. 1,500 m., March 5, 1927, *Ynes Mexia 1819* (Herb. Field Mus. No. 579,918, type).

Among the Mexican species this is most closely related to *C. superba* Don. That species differs in its large broad leaves and smaller buds.

Conostegia hirtella Don.—This species was described from Guatemala, and is not reported from Mexico. There may be referred here, however, the following collection in the herbarium of Field Museum: Cerro Campana, Chiquihuitlán, Distrito de Cuicatlán, Oaxaca, alt. 850 m., Aug. 22, 1909, *Conzatti 2504*. There is referred here, also, with some doubt, *Ynes Mexia 1532*, from San Sebastián, Jalisco. The latter specimen is noteworthy for its large, conspicuously dentate leaves, but in pubescence and flower characters it agrees well enough with southern specimens of *C. hirtella*.

Conostegia micrantha Standl., sp. nov.—Arbor 4.5-7.5 m. alta, trunco 2.5-7.5 cm. diam., ramulis validis, obtuse quadrangulatis, vetustioribus ochraceis, novellis viridibus, pilis minutis stellatis tomentosis, internodiis 1.5-3 cm. longis; petioli 1-3 cm. longi, graciles, minute et non dense stellato-tomentelli; limbus elliptico-ovatus vel late ellipticus, 8-15 cm. longus, 4.5-8 cm. latus, apice obtusus vel acutus et caudato-acuminatus, acumine e basi angusta triangulari, oblongi-lineari, 6-10 mm. longo, obtuso, basi obtusus vel rotundatus, 5-plinervius, remote et obscure repando-denticulatus vel fere integer, margine saepe anguste revoluto, supra viridis, ad costam minute stellato-puberulus vel fere omnino glaber, nervis subimpressis, subtus pallidior, minute stellato-pilosulus, nervis gracilibus, elevatis, nervulis transversis prominentibus, crebris, parallelis, angulo fere recto abeuntibus; flores cymoso-paniculati, paniculis terminalibus, 2.5-5.5 cm. longis, 2.5-6 cm. latis, dense multifloris, pedunculo crasso, 2-2.5 longo, ramulis stellato-tomentosis, pedicellis 1 mm. non superantibus; alabastra ovalia, 3-3.5 mm. longa, apice rotundata vel obtusa, sparse et minute stellato-puberula vel glabrata, cirsumscissa; calyx campanulatus, 2 mm. longus, truncatus; petala oblonga, 4 mm. longa, alba, basi purpurascentia, apice rotundata, glabra; antherae flavae, oblongae, 1.8 mm. longae, apice truncatae, glabrae.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 578*; Yale No. 12,211 (Herb. Field Mus. No. 579,667, type); at 540 m., *Cooper 619*.

Among the Central American Conostegias this is marked by the very small flowers.

Henriettella densiflora Standl., sp. nov.—Frutex vel arbor parva 3 m. alta, ramulis gracilibus, subteretibus, dense granuloso-furfuraceis, indumento pallide brunneo, internodiis 1-1.5 cm. longis; petioli crassi, 3-6 mm. longi, granuloso-furfuracei; limbus oblongo-ellipticus, 5-11 cm. longus, 2-4.5 cm. latus, abrupte acuminatus, acumine 7-15 mm. longo, recto vel subfalcato, obtuso, basi acutus vel obtusiusculus, trinervius, integer, membranaceus, supra viridis, glaber vel primo ad nervos granuloso-furfuraceus, subtus pallidior, ad nervos et nervulos dense granuloso-furfuraceus, nervis gracilibus, elevatis, nervulis transversis angulo lato divergentibus, crebris, rectis, parallelis; flores ad axillas fasciculati, sessiles, congesti, fasciculis paucifloris; calycis tubus oblongus, 2.5-3 mm. longus, obtuse costatus, dense granuloso-furfuraceus, limbo 4-lobato, lobis 1.2-1.8 mm. longis triangulari-oblongis, acutiusculis, intus papillosis.—Panama: Farm Eight pasture, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 575*; Yale No. 12,208 (Herb. Field Mus. No. 579,692, type).

Henriettea brunnescens Standl., sp. nov.—Arbor 7.5 m. alta, trunco 10 cm. diam., ramulis 3-4 mm. crassis, obtuse tetragonis, dense pilis longis divaricatis brunneis setoso-pilosis, internodiis elongatis; petioli 2.2-5 cm. longi, validi, dense setoso-pilosi; limbus ellipticus vel ovato-ellipticus, 14.5-26 cm. longus, 8-14 cm. latus, acuminatus, acumine recto vel subfalcato, attenuato, basi obtusus, 5-plinervius, membranaceus, remote et minutissime repando-denticulatus, supra setosus, subtus dense pilis patentibus setuloso-pilosus, nervis gracilibus, elevatis, nervulis transversis angulo recto abeuntibus, numerosis, parallelis; flores ad nodos defoliatos ramorum vetustiorum fasciculati, fasciculis 2–4-floris, pedicellis validis, 14-17 mm. longis, dense pilosis; calycis tubus campanulatus, basi rotundatus, 7-10 mm. longus, 6-8 mm. latus, dense pilis brunnescentibus rectis vel curvatis setuloso-pilosus, limbo breviter 5-lobo, 4 mm. longo, lobis late rotundatis, apiculatis.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 594*; Yale No. 12,227 (Herb. Field Mus. No. 579,610, type).

Chaetolepis nana Standl., sp. nov.—Herbacea vel suffruticosa, parce ramosa, caulibus procumbentibus, ad 20 cm. longis, e nodis radices emittentibus, pilis longis albidis rigidulis adscendentibus setoso-pilosis, internodiis 1-2 cm. longis; petioli 4-5 mm. longi, adpresse setoso-pilosi; limbus ovatus vel late ovatus, 1-2 cm. longus, 7-12 mm. latus, obtusus vel acutiusculus, basi obtusus vel rotundatus, 7-plinervius, integer, adpresse setuloso-ciliatus, membranaceus, supra dense adpresso-pilosus et adpresso-setosus, subtus dense adpresso-pilosus; flores pauci, ad apices ramulorum solitarii, pedicellis gracilibus, 7-8 mm. longis, adpresso-pilosis; calycis tubus

clavatus, 4 mm. longus, pilis subadpressis dense setuloso-pilosus, lobis 4, cum setis alternatis, ovato-oblongis, 2 mm. longis, acutis, in setam longam productis, setoso-ciliatis; petala 4, obovata, alba vel purpurea; stamina 8, subaequalia, filamentis gracilibus, antheris linearibus, 3 mm. longis, basi non productis, inappendiculatis; capsula clavata, 7 mm. longa, apice 4 mm. lata; semina numerosa, minuta, obovoidea, nigra.—Panama: On Chiriquí Trail, alt. 900 m., 1928, *G. P. Cooper 233* (Herb. Field Mus. No. 579,265, type), *232*.

ONAGRACEAE

Fuchsia decidua Standl., sp. nov.—Frutex, in anthesi aphyllus, ramis elongatis, subteretibus vel obtuse tetragonis, 3-9 mm. crassis, rimosis, vetustioribus griseis, junioribus brunneis, glabris, internodiis 1-2 cm. longis; flores racemoso-paniculati, paniculis laxe paucifloris, fere sessilibus, 4-6 cm. longis, glabris, ramulis gracilibus, glaucis, pedicellis gracilibus, 3-5 mm. longis; ovarium oblongum, 4 mm. longum, glaucescens; calycis tubus 3.5 cm. longus, basi 1.8 mm. latus, superne sensim dilatatus, ore 5 mm. latus, glaucescens, lobis oblongis, obtusis, 10-12 mm. longis, 4 mm. latis; petala subrotundata, 2 mm. longa et lata; stamina inaequalia, filamentis crassiusculis, 5-7 mm. longis, antheris late obovoideis, 1.5-1.8 mm. longis.—Mexico: In crevices of rocks on steep south slope, Real Alto, La Bufa, Sierra Madre Occidental, Jalisco, alt. 2,500 m., Jan. 30, 1927, *Ynes Mexia 1601* (Herb. Field Mus. No. 579,815, type).

Flowers light vermilion.

Among the Mexican species of *Fuchsia*, this plant is related only to *F. fulgens* DC., which has expanded leaves at the time of flowering, a sparsely pilose calyx, and acuminate calyx lobes.

MYRSINACEAE

Ardisia rarescens Standl., sp. nov.—Ramuli teretes, crassi, sparse ferrugineo-tomentelli vel glabrati, ad apicem dense foliati, internodiis brevibus; petioli crassi, 10-12 mm. longi, glabrati, supra canaliculati; limbus oblanceolato-oblongus, 11-12.5 cm. longus, 4 cm. latus, apice breviter acuminatus, acumine obtuso, basi cuneato-acutus, integer, margine subrevoluto, chartaceus, glaber, supra obscure viridis, in siccitate nigrescens, costa impressa, subtus brunnescens, punctulis crebris elevatis conspersus, costa tenui, elevata, nervis lateralibus utroque latere c. 19, angulo lato divergentibus, arcuatis, juxta marginem inaequaliter conjunctis, nervulis inconspicuis; paniculae subpyramidales, 13 cm. longae, 16 cm. latae, 3–4-pinnatae, laxe multiflorae, ramulis divaricatis, gracilibus, minute puberulis vel glabratis, floribus subumbellatis, umbellis c. 5-floris, pedicellis 5-9 mm. longis, ferrugineo-puberulis, bracteis linearibus, 1.5-2 mm. longis, patentibus, obtusis, puberulis; sepala 5, oblongo-

ovata, 2 mm. longa, acutiuscula, dense punctulis rotundatis punctata, sparse et minute puberula, glanduloso-ciliata; alabastra 4 mm. longa, acuminata, petalis glabris, punctulatis.—Mexico: Cerro del Boquerón, Chiapas, September, 1913, *C. A. Purpus 7032* (Herb. Field Mus. No. 415,794, type).

Purpus 7032, as represented in the herbarium of Field Museum, is a mixture, the flowering material belonging to the species here described. A fruiting branch mounted with the type is apparently *Parathesis reflexa* Brandeg.

Ardisia rarescens is related to *A. crenipetala* Mez, but in that species the leaves are crenate, and the inflorescence is shorter than the leaves.

Ardisia oblanceolata Standl., sp. nov.—Arbor 6 m. alta, trunco 7.5 cm. diam., ramulis crassis, brunnescentibus, glabratis, ad apicem dense foliatis, internodiis brevissimis; petioli 6-10 mm. longi, glabrati, fere ad basin marginati; limbus anguste oblongo-oblanceolatus, 14-20 cm. longus, 3.5-5 cm. latus, versus apicem longe acuminatum, rarius acutum vel obtusiusculum, sensim angustatus, acumine obtuso, versus basin longe sensimque attenuatus, decurrens, membranaceus, integer, glaber, supra viridis, costa elevata, nervis obscuris, subtus pallidior, punctulis subfuscis satis conspicuis crebris conspersus, costa tenui, nervis lateralibus tenuissimis, utroque latere c. 14, angulo lato divergentibus, rectis vel leviter arcuatis, prope marginem arcuato-conjunctis; inflorescentia bipinnata, pauciflora, c. 4 cm. longa, floribus umbellatis, umbellis paucifloris, glabris, pedicellis gracilibus, curvatis, 6-8 mm. longis; sepala 5, lanceolato-linearia, versus apicem acutiusculum sensim attenuata, 3 mm. longa, basi vix 1 mm. lata, glanduloso-ciliolata; drupae globosae, rubrae, 1 cm. longae, glanduloso-punctatae; semen multicostatum.—Panama: Region of Almirante, 1928, *G. P. Cooper 370* (Herb. Field Mus. No. 579,578, type).

Another specimen referable here is *Cooper 12* (Yale No. 10,474) from the Talamanca Valley, Costa Rica, collected in June, 1927.

Among the Central American Ardisias this is easily recognized by the long and very narrow leaves.

Ardisia amplifolia Standl., sp. nov.—Arbor parva vel frutex ominino glaber, ramulis crassis, subteretibus, ochraceis, internodiis 0.7-2 cm. longis; petioli 12-15 mm. longi, crassi, supra canaliculati, anguste alati, ad margines nigro-punctati; limbus oblongo-obovatus, 22-27 cm. longus, 8.5-11 cm. latus, apice obtusus, basin versus longe cuneato-attenuatus et decurrens, integer, crasse membranaceus, supra viridis, punctulis paullo elevatis dense punctulatus, costa impressa, nervis conspicuis, prominulis, subtus pallidior, costa valida, elevata, nervis lateralibus utroque latere c. 23, angulo lato divergentibus, fere rectis, prope marginem laxe reticulato-conjunctis,

margine anguste revoluto; inflorescentia terminalis, bipinnatim paniculata, 6 cm. longa, 4 cm. lata, brevipedunculata, floribus ad apices ramulorum primariorum umbellatis, umbellis 2–7-floris, superioribus ad apicem axis centralis sessilibus, pedicellis 6-11 mm. longis, gracilibus; bracteae caducae, herbaceae, lanceolatae, 1-1.5 cm. longae, acutae, nigro-punctulatae; sepala dextrorsum tegentia, late ovalia, 2.5 mm. longa, apice rotundata, dense punctata, marginibus epunctatis, pallidis; alabastra 8 mm. longa, attenuata; petala lanceolato-linearia, attenuata, breviter connata, 1.7 mm. lata, dense lineis et punctis rubro-brunneis conspersa; filamenta 1 mm. longa, antheris linearibus, 5-5.5 mm. longis, superne attenuatis.—Nicaragua: Region of Bragman's Bluff, 1928, *F. C. Englesing 230* (Herb. Field Mus. No. 579,731, type).

Related to *A. paschalis* Donn. Smith, of Guatemala and Honduras, which differs in having broad corolla lobes, rounded at apex, and ciliolate sepals.

Ardisia sanmartensis (Rusby) Standl., comb. nov. *Icacorea sanmartensis* Rusby, Descr. N. Sp. S. Amer. Pl. 80. 1920.

Ardisia Herbert-Smithii (Rusby) Standl., comb. nov. *Icacorea Herbert-Smithii* Rusby, Descr. N. Sp. S. Amer. Pl. 80. 1920.

Ardisia Rusbyana Standl., nom. nov. *Icacorea granatensis* Rusby, Descr. N. Sp. S. Amer. Pl. 79. 1920, not *Ardisia granatensis* Mez, 1902.

Parathesis obovata Standl., sp. nov.—Ramuli graciles, subteretes, brunnescentes, sparse lenticellati, novellis adpresse brunneo-tomentulosis; petioli graciles, 5-12 mm. longi, glabrati; limbus oblongo-obovatus, 4-7 cm. longus, 2-3 cm. latus, apice obtusus vel rotundatus, basin versus sensim angustatus, basi ipsa acuta, crasse membranaceus, integer, supra viridis, lucidus, glaber, costa impressa, nervis obscuris, subtus paullo pallidior, ad nervos sparse puberulus vel glabratus, costa gracili, elevata, nervis lateralibus utroque latere c. 15, gracillimis, obscuris, angulo lato divergentibus; inflorescentia tripinnatim paniculata, laxe multiflora, pyramidalis, 13-18 cm. longa, c. 11 cm. lata, inferne foliata, ramulis gracilibus, patentibus, ferrugineo-tomentellis, pedicellis gracilibus, 5-9 mm. longis, tomentellis; bracteae lineares vel vel anguste spathulatae, 2-5 mm. longae, punctatae, plerumque in petiolulum contractae; sepala ovata, acuta, 1.3 mm. longa, sparse et minute tomentella; alabastra 4-5 mm. longa, ovoidea, obtusa, tomentella, petalis dense tomentellis.—British Honduras: Tower Hill, 1928, *J. S. Karling* (Herb. Field Mus. No. 579,927, type).

This species is noteworthy because of the small, obovate, nearly glabrous leaves with obtuse or rounded apex.

SAPOTACEAE

Lucuma pentasperma Standl., sp. nov.—Arbor 11-metralis, trunco 25 cm. diam., ramulis gracilibus, obtuse angulatis, ochraceis, glabris, minute lenticellatis, internodiis elongatis; petioli 13-20 mm. longi, graciles, supra canaliculati, primo sparse sericei, mox glabrati; limbus obovato-oblongus vel elliptico-oblongus, 12.5-26 cm. longus, 4-10 cm. latus, abrupte breviterque acuminatus, acumine 1.5-2 cm. longo, obtuso, basi acutus, glaber, lucidus, laete viridis, costa tenui, supra plana vel leviter impressa, subtus elevata, nervis lateralibus utroque latere c. 12, angulo lato adscendentibus, arcuatis, prope marginem laxe conjunctis, nervulis intermediis prominulis, laxe reticulatis; fructus subglobosus, subsessilis, 5 cm. diam., glaber; semina 5, suborbicularia, compressa, laevia, nitida, brunnea, 25 mm. longa, 12 mm. lata, 7 mm. crassa, margine dorsali acuto.—Panama: Region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 369* (Herb. Field Mus. No. 579,577, type).

"Wild sapote." A tree with milky sap. Fruit edible, the rind golden brown, the pulp juicy.

Lucuma lucentifolia Standl., sp. nov.—Arbor 7.5 m. alta, trunco 25 cm. diam, ramulis vetustioribus teretibus, griseis, junioribus crassis, brunneo-sericeis vel glabratis, internodiis brevibus; petioli 1-2.5 cm. longi, graciles, supra late canaliculati, glabrati; limbus obovatus vel cuneato-obovatus, 9-17 cm. longus, 4-7 cm. latus, apice abrupte breviacuminatus, acumine deltoideo, obtuso, crasse chartaceus, fere omnino glaber, utrinque lucidissimus, supra obscure viridis, nervis vix prominulis, subtus pallidior, costa elevata, nervis lateralibus utroque latere 10-11, tenuibus, prominentibus, angulo lato divergentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis, laxe reticulatis; flores e ramis defoliatis nascentes, pedicellis crassis, 5 mm. longis; bacca globosa, c. 6 cm. diam., cortice dense albido-lenticellato; semina elliptico-oblonga, compressa, 3.2 cm. longa, 1.5 cm. lata, 7 mm. crassa, apice et basi obtusa, brunnea, laevia, nitida.—Costa Rica: Talamanca Valley, June, 1927, *G. P. Cooper 13* (Herb. Field Mus. No. 572,705, type).

The specimens were taken from a tree with large crown, left by the Indians in clearing for its fruit. The tree is reported to reach a large size in the forest.

Lucuma chiricana Standl., sp. nov.—Arbor 30-metralis, trunco 60-75 cm. diam., ramulis gracilibus, angulatis, pallide brunneis, lenticellatis, glabris, internodiis brevibus vel elongatis; petioli 8-13 mm. longi, crassi, supra plani vel leviter sulcati, glabri; limbus oblongus, late oblongus vel oblanceolato-oblongus, 8.5-15.5 cm. longus, 2.5-6 cm. latus, abrupte breviterque acuminatus, acumine 8-10 mm. longo, obtuso, basi obtusus et saepe breviter contractus, coriaceus, lucidus, glaber, costa supra prominula, subtus elevata, tenui, nervis lateralibus utroque latere c. 12, angulo lato divergen-

tibus, tenuissimis, leviter arcuatis, juxta marginem laxe conjunctis, nervulis inconspicuis, arcte reticulatis; fructus globoso-obovoideus, 3.5 cm. longus, apice late rotundatus, edulis, laevis, sparse et minute sericeus; semen 1, subglobosum, 2 cm. longum, basi et apice late rotundatum, laeve, brunneum.—Panama: Progreso, Chiriquí, 1927, *G. P. Cooper and G. M. Slater 254*; Yale No. 10,607 (Herb. Field Mus. No. 573,174, type; duplicate in U. S. Nat. Herb.). Progreso, *Cooper and Slater 230* (Yale No. 10,583).

"Níspero, Níspero colorado." A large forest tree with high buttresses. The fruit and sap yield a copious sticky latex. The latex and wood are bitter. The wood is reddish, hard, heavy, hard to split, and durable. According to the collectors' notes, the tree yields commercial balata.

Lucuma calistophylla Standl., sp. nov.—Arbor 18-metralis, trunco 45 cm. diam., ramulis crassis, subteretibus, sericeis vel glabratis, internodiis brevibus vel elongatis; petioli crassi, 2-3 cm. longi, supra plani vel leviter sulcati, minute sericei vel glabrati; limbus obovato-ellipticus, 19-22 cm. longus, 8.5-9.5 cm. latus, apice rotundatus vel obtusus et breviter cuspidato-acuminatus, acumine 1-1.5 cm. longo, angusto, acuto, basi acutus vel attenuatus, crasse coriaceus, supra griseo-viridis, glaber, costa prominente, subtus minute et densissime brunneo-sericeus, costa crassa, elevata, nervis lateralibus utroque latere c. 21, validis, angulo lato divergentibus, elevatis, leviter curvatis, juxta marginem conjunctis, margine anguste revoluto; flores et fructus non visi.—Panama: Cricamola Valley, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 481* (Herb. Field Mus. No. 579,416, type).

"Mameicillo." A tree with stout branches and no buttresses. Sap milky.

Because of the absence of flowers and fruit, the generic position of this tree is, of course, uncertain. It seems desirable to give it a name, because it is clearly distinct in foliage characters from all the Sapotaceae hitherto reported from Central America. The tree is well marked by the broad coriaceous leaves, densely brown-sericeous beneath.

Lucuma euryphylla Standl., sp. nov.—Arbor 15-metralis, trunco 15 cm. diam., ramulis validis, obtuse angulatis, sparse sericeis, internodiis elongatis; petioli validi, 3-4 cm. longi, supra late canaliculati vel fere plani, sparse sericei vel glabrati; limbus ellipticus, obovato-ellipticus vel obovato-oblongus, 16-20 cm. longus, 5.5-10 cm. latus, abrupte acuminatus, acumine angusto, 1-1.5 cm. longo, acuto, basi acutus, crasse membranaceus, supra obscure viridis, glaber, nervis conspicuis, subtus pallidior, dense nitido-sericeus, costa crassa, elevata, nervis lateralibus utroque latere 9-10, angulo

acuto adscendentibus, elevatis, tenuibus, fere rectis, versus apicem curvatis, juxta marginem conjunctis, nervulis prominulis, reticulatis; flores axillares, fasciculati, pauci, pedicellis crassis, rectis, 4-5 mm. longis, dense sericeis; sepala imbricata, exterioribus ovalibus, 3.5 mm. longis, apice rotundatis, extus dense et minute sericeis, interioribus 4 mm. longis, late ovalibus, ad costam sericeis; corolla ochroleuca, tubo 2.7 mm. longo, glabro, lobis 5, late oblongis, 2 mm. longis, apice subtruncatis, ciliolatis; stamina inclusa, filamentis gracilibus, glabris, antheris oblongo-ovatis, filamentis duplo brevioribus; ovarium dense hirsutum, stylo glabro, crasso, stamina aequante.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 611*; Yale No. 12,244 (Herb. Field Mus. No. 579,635, type).

A tree with long slender clear bole 7.5 m., high, and narrow buttresses, the twigs hollow. Sap slightly milky. Bark very thin, somewhat stringy below.

Among the Central American species of *Lucuma* this is well marked by the broad sericeous leaves.

APOCYNACEAE

Stemmadenia macrantha Standl., sp. nov.—Arbor 7.5 m. alta, laticifera, omnino glabra, trunco 7.5 cm. diam., ramulis gracilibus, c. 2 mm. crassis, subteretibus vel angulatis, rimosis, ochraceis, internodiis 0.5-2 cm. longis; folia opposita, petiolis crassulis, 2-5 mm. longis, supra sulcatis, limbo oblanceolato-oblongo, 6.5-14 cm. longo, 1.8-3.5 cm. lato, longe et abrupte caudato-acuminato, acumine recto vel falcato, angusto, acuto, 1-1.5 cm. longo, versus basin acutam angustato, membranaceo, supra viridi, costa sulcata, nervis lateralibus conspicuis sed non elevatis, subtus paullo pallidiore, costa gracili, elevata, nervis lateralibus utroque latere c. 12, angulo lato vel acuto adscendentibus, curvatis, prope marginem conjunctis; flores ad apices ramulorum pauci vel breviter racemosi, pedicellis 5-7 mm. longis, validis; calyx 5-partitus, viridis, segmentis paullo inaequalibus, 2-3 cm. longis, lanceolata-oblongis, obtusis, viridibus, venulosis, intus basi verticillo glandulorum numerosorum filiformium onustis; corolla hypocrateriformis, flava, tubo 7 cm. longo, basi 4 mm. lato, superne paullo dilatato, fauce 1 cm. lato, intus glabro, lobis late oblongis, 2-3 cm. longis, apice rotundatis; stamina 2.5 cm. supra basin tubi inserta, antheris lineari-sagittatis, 4.5 mm. longis; discus annularis, 1 mm. altus.—Panama: Kankintoe, 10 miles above Holstein, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 510* (Herb. Field Mus. No. 579,383, type).

"Mountain jasmine." A copious milky sap exudes from the bark when it is cut.

The species is well marked by the large corolla with narrow tube, which is only slightly broadened upward.

Plumeria microcalyx Standl., sp. nov. —Arbor 9-metralis, omnino glabra, trunco 15 cm. diam., ramulis 4-5 mm. crassis, cavis, internodiis brevibus; folia opposita vel subopposita, petiolo crasso, 1-1.5 cm. longo, supra late sulcato, limbo obovato-elliptico vel oblongo-obovato, 10-16 cm. longo, 5-7.5 cm. lato, apice obtuso vel subrotundo, basi acuto vel acutiusculo, subcoriaceo, supra viridi, lucido, nervis conspicuis, nervulis paullo elevatis, reticulatis, subtus pallidiore, costa valida, elevata, nervis lateralibus utroque latere 11-15, gracilibus, elevatis, angulo lato divergentibus, fere rectis, versus apices abrupte curvatis, prope marginem laxe conjunctis, margine anguste revoluto; flores cymoso-paniculati, paniculis multifloris, densis, c. 12 cm. longis et latis, pedunculatis, pedunculo crasso, compresso-angulato, 7-8 cm. longo, ramulis compressis, pedicellis crassis, 2.5-8 mm. longis; bracteae ovatae, c. 2 cm. longae et 1 cm. latae, apice acutae et subulato-cuspidatae; calyx eglandulosus, 5-partitus, lobis maxime inaequalibus, remotis, anguste triangularibus vel lineari-lanceolatis, 1-3 mm. longis, deciduis; corolla alba, hypocrateriformis, tubo gracili, 2 cm. longo, basi 1.7 mm. lato, intus basi infra insertionem antherarum breviter villosulo, lobis 5, lineari-oblongis, obtusis, 2 cm. longis; stamina prope basin tubi inserta, antheris oblongis, inappendiculatis, 2.5 mm. longis, apiculatis.—Panama: Permé, San Blas Coast, April 3-10, 1928, *G. P. Cooper 642*; Yale No. 12,275 (Herb. Field Mus. No. 579,227, type).

"Wild jasmine." A tree with divided bole. Flowers fragrant.

From all the other Central American species of *Plumeria* this is distinguished at once by the small flowers, with very small calyx, and by the few nerves of the leaves.

Rauwolfia macrocarpa Standl., sp. nov.—Arbor 4.5-6 m. alta, trunco 7.5 diam., ramulis gracilibus, teretibus, puberulis, lenticellis sparsis albidis vix elevatis conspersis, internodiis 4-9.5 cm. longis; folia ternata vel quaternata, inaequalia, petiolis 1-4 mm. longis, supra canaliculatis, puberulis; limbus oblongo-ellipticus vel foliorum minorum late ellipticus, 4.5-11.5 cm. longus, 2.2-5 cm. latus, acutus vel breviter acuminatus, basi obtusus, membranaceus, supra obscure viridis, nitidulus, glaber, minute puncticulatus, subtus minute et dense velutino-pilosulus, costa valida, elevata, nervis lateralibus utroque latere c. 12, gracillimis, prominulis, angulo lato adscendentibus, leviter arcuatis; cymae axillares, laxe pauciflorae, pedunculo 1.6-4.5 cm. longo, puberulo, pedicellis crassis, 4-6 mm. longis; calyx 2-2.5 mm. longus, lobis ovalibus, apice rotundatis, puberulis, ciliolatis, erectis; fructus globosus, 1.5 cm. diam., sessilis, apice et basi late rotundatus, glaber.—Panama: Progreso, Chiriquí, 1927, *G. P. Cooper and G. M. Slater 200*; Yale No. 10.553 (Herb. Field Mus. No. 573,121,type).

"Fruta del diablo." A small bushy tree with large crown. Fruit showy, greenish, becoming yellowish red at maturity. The fruit and sap yield a copious sticky latex.

From the few other Central American species of *Rauwolfia* this is distinguished by the very large fruits.

Rauwolfia purpurascens Standl., sp. nov.—Frutex scandens, omnino glaber, laticifer, ramulis validis, 2.5-4 mm. crassis, subteretibus vel obtuse angulatis, brunneis, internodiis 1-5 cm. longis; folia ternata, petiolo 8-25 mm. longo, valido, supra late sulcato, limbo obovato, oblongo-obovato vel elliptico-obovato, 7.5-16 cm. longo, 3-7 cm. lato, breviter et abrupte acuminato, acumine triangulari, acuto, basi acuto vel acuminato, crasse membranaceo, supra viridi, nervis conspicuis sed vix elevatis, subtus paullo pallidiore, costa gracili, elevata, nervis lateralibus utroque latere 14-16, angulo lato divergentibus, arcuatis, juxta marginem conjunctis; flores cymoso-paniculati, paniculis terminalibus, sessilibus, 6-8 cm. longis, laxe multifloris, e basi ramosis, ramulis primariis gracilibus, 2.5-4 cm. longis, apice umbellatim ramosis, cymulis umbelliformibus, paucifloris, pedicellis gracilibis, rectis, 2.5-6 mm. longis; calyx 1.8 mm. longus, eglandulosus, profunde 5-fidus, lobis oblongo-ovatis, obtusis, erectis; corolla purpurascens, hypocrateriformis tubo 7 mm. longo, 1.5 mm. crasso, intus infra et supra insertionem staminum villosulo, fauce paullo constricto, lobis 5, 5 mm. longis, ovato-oblongis, obtusis; stamina ad apicem tubi inserta, antheris ovatis, acutis, inappendiculatis, 0.6 mm. longis; discus cupularis, 0.5 mm. longus; stylus filiformis, 2.5 mm. longus, stigmate minuto.—Panama: Cricamola Valley, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 516* (Herb. Field Mus. No. 579,377, type).

A vine growing around an old sota-caballo tree. Milky sap in the new shoots and in pith, but rare in the bark.

All the other species of *Rauwolfia* known from Central America are erect shrubs.

ASCLEPIADACEAE

Vincetoxicum stenanthum Standl., sp. nov.—Volubilis, scandens, ramis gracilibus, teretibus, pallide brunneis, ad nodos puberulis, internodiis elongatis; petioli graciles, 1-2 cm. longi, glabri; limbus oblongo-ovatus, 3.5-6 cm. longus, 1.5-3 cm. latus, acutus vel abrupte breviterque acuminatus, basi cordatus, sinu lato, aperto, 4-7 mm. longo, lobis basalibus rotundatis, membranaceus, glaber, supra viridis, subtus pallidior, basi 5-nervius, costa valida, elevata, nervis lateralibus utroque latere c. 5, angulo acuto adscendentibus; cymae axillares, solitariae, umbelliformes, 1–5-florae, 1-2.5 cm. longe pedunculatae, pedunculo glabro, pedicellis inaequalibus, gracillimis, 1-5 cm. longis, sparsissime et minute puberulis vel glabris; calycis lobi in anthesi reflexi, anguste lanceolati, 1.5 cm. longi, versus apicem sensim attentuati, glabri; corolla rotata, fere ad basin 5-fida, lobis linearibus, 1.5-2 cm. longis, basi 3 mm. latis, versus apicem sensim attenuatis, evenosis, prope basin minute papillosis, glabris, tantum basi coronae hirtellis; corona annularis, obscure lobata, humillima,

4 mm. lata; gynostegium humile, depressum.—British Honduras: Tower Hill, 1928, *J. S. Karling 27* (Herb. Field Mus. No. 579,928, type).

The conspicuous characters of this plant are the long narrow glabrous corolla lobes and the long reflexed calyx lobes.

VERBENACEAE

Lippia ligustrina (Lag.) Britton, var. **Schulzii** Standl., var. nov.—Folia elliptica, obovata vel oblongo-elliptica, 5-18 mm. longa, 3-7 mm. lata, apice obtusa, basi acuta vel obtusa, dentata vel integra, dentibus utroque latere 1-4, magnis, salientibus, obtusis, supra densissime tuberculata, scaberula, subtus dense strigillosa et praecipue ad nervos pilis rigidulis brevibus adscendentibus hispidula; ceteris formae typicae similis.—Texas: Vicinity of Fort Davis, August 5, 1928, *Ellen D. Schulz 2020* (Herb. Field Mus. No. 579,850, type).—Sonora: Valley of the Altar River, April 2, 1884, *C. G. Pringle.*

In the typical form of the species the leaves are usually somewhat narrower and entire, with much finer, closely appressed pubescence. The corolla is rather more copiously hispidulous in var. *Schulzii* than in the normal form.

Stachytarpheta luisana Standl., comb. nov. *Valerianoides luisanum* Standl. Contr. U. S. Nat. Herb. 23; 1242. 1924.

Verbena pumila Rydb. f. **albiflora** Standl., f. nov.—Corolla alba; ceteris formae typicae omnino similis.—Texas: San Antonio, spring of 1926, *Lydia E. Pagel 2208* (Herb. Field Mus. No. 580,190, type).

Vitex Cooperi Standl., sp. nov.—Arbor 18-23 m. alta, trunco 60-75 cm. diam., ramulis teretibus vel compressis, ochraceis vel pallide brunneis, rimosis, novellis fulvo-puberulis, internodiis 1.5-3.5 cm. longis; petioli graciles, 2.5-6.5 cm. longi, supra canaliculati, minute puberuli; foliola 3, inaequalia, lateralibus minoribus et brevius petiolatis, petiolulo 2-7 mm. longo; foliolorum limbus late ellipticus, 4.5-14 cm. longus, 2.5-7.5 cm. latus, apice rotundatus et breviter acuminatus vel interdum abrupte acuminatus, acumine obtuso et apiculato, basi acutus vel abrupte contractus, integer, membranaceus, supra viridis, nitidulus, minutissime puberulus vel glabratus, nervis impressis, subtus pallidior, puberulus vel glabratus, costa gracili, elevata, nervis lateralibus utroque latere c. 15, angulo lato divergentibus, leviter arcuatis, prope marginem reticulato-conjunctis; cymae axillares, solitariae, laxe multiflorae, 3.5-6 cm. longae, pedunculo gracili, 5-6 cm. longo, ramulis puberulis, pedicellis 1-3 mm. longis; calyx late campanulatus, 1.5 mm. longus, remote denticulatus, puberulus, dentibus minutis, acutis; corolla 6-7 mm. longa, extus dense glanduloso-puberula, lobis intus minute puberulis; stylus

gracilis, glaber; fructus obovoideus, 10 mm. longus, 7 mm. latus, apice late rotundatus vel subtruncatus, glaber.—Panama: Progreso, Chiriquí, July-August, 1927, *G. P. Cooper and G. M. Slater 156*; Yale No. 10,509 (Herb. Field Mus. No. 573,061, type), *195* (Yale No. 10,548), *241* (Yale No. 10,594).

"Cuajada." A large tree, buttressed and fluted. Frequent. Wood durable, used for ties and stringers.

Closely related to *V. floridula* Duchass. & Walp., also of Panama, but in that species the leaves usually are not developed at the time of flowering, the cymes are only half as large and short-peduncled, and the corolla is much larger.

Citharexylum hirtellum Standl., sp. nov.—Ramuli graciles, vix 2 mm. crassi, tetragoni et striati, minute puberuli, internodiis 2-6 cm. longis; petioli graciles, 7-9 mm. longi, supra anguste sulcati, puberuli; limbus anguste oblongo-ellipticus, anguste ellipticus vel rarius ovatus, 6.5-9.5 cm. longus, 2.3-3.5 cm. latus, acuminatus vel abrupte acuminatus, acumine obtuso, basi acutus vel acuminatus, membranaceus, integer, supra viridis, sublucidus, minute puberulus vel fere glaber, nervis vix prominulis, subtus paullo pallidior, ad nervos hirtellus, inter nervos puberulus, costa gracili, elevata, nervis lateralibus utroque latere 5-6, angulo acuto adscendentibus, arcuatis, prope marginem conjunctis, nervulis inconspicuis; racemi terminales, multiflori, pedunculo brevi adjecto 6-10 cm. longi, rhachi hirtella, pedicellis c. 1 mm. longis, bracteis lineari-subulatis, pedicellos vix superantibus; calyx 4.5-5 mm. longus, cylindraceo-campanulatus, basi acutiusculus, sparse hirtellus, remote denticulatus; corolla c. 7 mm. longa, tubo calyce vix longiore, glabro, lobis rotundatis, sparse et minute puberulis.—British Honduras: Tower Hill, 1928, *J. S. Karling 9* (Herb. Field Mus. No. 579,931, type).

Citharexylum hirtellum is a close relative of *C. Berlandieri* Rob., but that species differs in its thick, conspicuously veined, densely velvety-pubescent leaves and slightly shorter, densely hirtellous calyx.

LABIATAE

Scutellaria racemosa Pers.—This species is widely distributed in central and southern Mexico and in South America, having been described from Montevideo, Uruguay, but it has not been reported from Central America. It was collected by the writer at Siguatepeque, Honduras, altitude 1,080 meters, in February, 1928, *No. 55,964*. It is common about Siguatepeque, growing in low wet places on the plains.

Sphacele pinetorum Standl., sp. nov.—Frutex ramosus 1.5 m. altus, ramulis gracilibus, obtuse tetragonis, vetustioribus ferrugineo-

brunneis, glabratis, novellis villosis et viscido-puberulis, internodiis elongatis; folia sessilia, lineari-lanceolata, 12-18 cm. longa, 1.7-2.7 cm. lata, versus apicem longe attenuata, versus basin attenuata, basi ipsa rotundata et subamplexicaulis, repando-denticulata, crassa, supra viridia, primo villosa et glanduloso-scaberula, cito glabrata, nitidula, nervulis prominulis, reticulatis, subtus paullo pallidiora, primo ad nervos sparse villosa et ubique minute viscido-puberula, mox glabrata, puncticulata, costa crassa, elevata, nervis prominentibus, reticulatis; flores laxe paniculati, paniculis terminalibus, 18-28 cm. longis, 4-13 cm. latis, multifloris, ramulis dense et minutissime viscido-puberulis, bracteis lineari-lanceolatis, patentibus, 3-14 mm. longis, pedicellis plerumque 5-8 mm. longis; calyx campanulatus, anthesi 4 mm. longus, 10-nervius, dense glanduloso-puberulus, obscure bilabiatus, 5-dentatus, dentibus tubo multo brevioribus, triangulari-ovatis, acuminatis, intus glanduloso-puberulis, calyce fructifero ampliato, 6-7 mm. longo; corolla punicea, 14 mm. longa, extus minute puberula, tubo superne ampliato, fauce 4-5 mm. lato, lobis inaequalibus, 1.5-2.5 mm. longis, rotundatis; stamina 4, exserta, subaequalia, subadscendentia, filamentis gracilibus glabris, antherarum loculis oblongis, divergentibus, subcurvatis; stylus glaber; nuculae suborbiculares, compressae, 2 mm. latae, laeves, glabrae.—Mexico: Dry clay hillsides in pine forest, Loma de Garrote, trail to San Sebastián, Sierra Madre Occidental, Jalisco, alt. 1,500 m., February 8, 1927, *Ynes Mexia 1649* (Herb. Field Mus. No. 579,807, type).

Flowers brick-red.

Sphacele pinetorum f. **flaviflora** Standl., f. nov.—Corolla flava; ceteris formae typicae omnino similis.—Mexico: Dry clayey steep hillside in pine forest, San Sebastián, trail to Loma de Garrote, Jalisco, alt. 1,500 m., February 8, 1927, *Ynes Mexia 1649c* (Herb. Field Mus. No. 579,806, type).

From Mexico there are known only two other species of *Sphacele*, both of which have triangular-hastate, stellate-tomentose leaves.

SOLANACEAE

Cyphomandra caudata Standl., sp. nov.—Arbor parva 3 m. alta, trunco 5 cm. diam., ramulis subteretibus, pallide viridibus, punctulis minutis albidis notatis, sparse pilis longis patentibus albidis mollibus paucicellularibus villosis, internodiis elongatis; folia pinnata, petiolo 2.5-6 cm. longo, rhachi 2-2.5 cm. longa; foliola plerumque 5, rarius 7, subopposita, inaequallia, inferioribus minoribus, petiolulatis, petiolulo 2-4 mm. longo, superioribus sessilibus vel breviter petiolulatis, foliolo terminali longipetiolulato, petiolulo 5-9 mm. longo, limbo ovato-oblongo, obovato-oblongo, vel obovato, apice longe et abrupte caudato-acuminato, acumine 2-4.5 cm. longo, longe filiformi-attenuato, basi rotundato vel vel obtuso et saepe obliquo, integro, tenuiter

membranaceo, laete viridi, supra sparse pilis longis albidis villoso, subtus ad ad nervos villoso, costa gracili, elevata, nervis lateralibus utroque latere 6-9, angulo acuto adscendentibus, arcuatis; cymae longipedunculatae, pedunculo gracillimo, 19 cm. longo, sparse villoso vel glabrato, ramulis paucis, remote multifloris, gracillimis, 8-14 cm. longis, flexuosis, pedicellis gracilibus, 10-15 mm. longis, glabratis; calyx 2 mm. longus, 4 mm. latus, puberulus, 5-lobatus, lobis ovato-triangularibus, acutiusculis; corolla 1 cm. longa, extus dense et minute puberula, lobis tubo paullo longioribus, triangulari-ovatis, ad apicem obtusum attenuatis; filamenta crassa, 1 mm. longa, antheris 4 mm. longis, connectivo incrassato, basi infra cellulas producto; ovarium ovoideum, 2.5 mm. longum, glabrum, stylo 5.5 mm. longo, valido, supra clavato-incrassato, apice truncato; bacca ovalis, 3 cm. longa, glabra.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 398* (Herb. Field Mus. No. 579,172, type).

"Wild cucumber." A low tree with spreading crown. Flower buds purplish.

The species is well marked among the Central American representatives of the genus by its thin pinnate leaves.

Capsicum asterotrichum Standl., sp. nov.—Arbor parva 4.5 m. alta, ramulis flexuosis, crassis, obtuse angulatis, pilis stellatis stipitatis dense villosis, internodiis 4-5 cm. longis; folia paris valde inaequalia; folia majora: petiolus 2-2.5 cm. longus, validus, dense stellato-villosus; limbus ovatus vel ovato-ellipticus, 10-16.5 cm. longus, 4-9 cm. latus, acuminatus, basi oblique acutus, obtusus, vel rotundatus, integer, membranaceus, supra viridis, sparse pilis simplicibus et alteris stipitato-stellatis indutus, subtus pallidior, stellato-villosus, costa gracili, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus, arcuatis, prope marginem laxe conjunctis; folia minora: petiolus 4-6 mm. longus; limbus late ovatus, 4-5.5 cm. longus, 2.5-3.7 cm. latus, acutus vel acutiusculus; flores umbellati, umbellis axillaribus, sessilibus, solitariis, multifloris, pedicellis gracilibus, 8-15 mm. longis, sparse pilis stipitato-stellatis villosis; calyx late campanulatus, 2 mm. altus, 2.5-3 mm. latus, stellato-villosus, truncatus, remote denticulatus; bacca globosa, aurantiaco-rubra, 5 mm. diam., villosa; semina numerosa, obovoidea, 1.4 mm. longa, brunnescentia, foveolata.—Panama: Farm Eight pasture, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 576*; Yale No. 12,209 (Herb. Field Mus. No. 579,693, type).

Among the Central American representatives of the genus *Capsicum* this plant is easy to recognize because of the copious coarse pubescence, consisting of several-rayed stipitate hairs.

Lycianthes variifolia Standl., sp. nov.—Ramuli graciles, teretes, ochracei, minute stellato-puberuli, internodiis brevibus; folia sparsa vel opposita, inaequalia, petiolo gracili, 3-10 mm. longo, supra late

sulcato, pilis stellatis minutis ferrugineis puberulo; limbus ovatus, ovalis, obovatus vel rarius late ellipticus, 2-7 cm. longus, 1.5-3 cm. latus, apice obtusus vel rotundatus, basi obtusus vel rarius acutus et saepe inaequalis, membranaceus, integer, supra viridis, sparse et minutissime stellato-puberulus, subtus paullo pallidior, dense pilis pauciradiatis stellato-pubescens, costa gracili, elevata, nervis lateralibus utroque latere 4-5, angulo acuto adscendentibus, gracillimis, leviter curvatis, prope marginem laxe conjunctis; flores in axillis umbellati, umbellis sessilibus, paucifloris, pedicellis 4-10 mm. longis, stellato-puberulis; calyx campanulatus, 4 mm. longus, basi rotundatus, sparse et minutissime stellato-puberulus, truncatus, paullo infra marginem appendicibus c. 10 crassis teretibus obtusis 1.5-2 mm. longis onustus; corolla 8-9 mm. longa, subrotata, extus in alabastro dense stellato-tomentosa; antherae oblongae, 4 mm. longae, glabrae, filamentis brevibus, glabris.—British Honduras: Tower Hill, 1928, *J. S. Karling 13* (Herb. Field Mus. No. 579,929, type).

The small leaves of this species, obtuse or rounded at apex, are distinctive.

Lycianthes cuneata Standl., sp. nov.—Arbor 6 m. alta, trunco 7.5 cm. diam., ramulis gracilibus, teretibus, ochraceis, ad apicem minutissime puberulis vel glabratis, internodiis 1.5-3 cm. longis; folia inaequalia; folia majora: petiolus 8-15 mm. longus, validus, minutissime puberulus; limbus oblique obovatus vel obovato-ellipticus, 7.5-11 cm. longus, 3.5-6 cm. latus, apice obtusus vel rotundatus et plerumque brevissime et abrupte apiculato-acuminatus, basi oblique cuneato-acutus vel attenuatus, integer, membranaceus, supra viridis, glaber, nervis non elevatis, subtus paullo pallidior, ad nervos minutissime griseo-puberulus, costa gracili, elevata, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus, leviter arcuatis; folia minora: petiolus 4-6 mm. longus; limbus obovato-rotundatus, 3.5-5 cm. longus, 2.5-3.5 cm. latus, apice late rotundatus, basi obtusus; cymae axillares, solitariae, umbelliformes, pauciflorae, pedunculo 5-12 mm. longo, pedicellis gracilibus, 8-11 mm. longis, glabris; calyx late campanulatus, 2 mm. longus,3 mm. latus, glaber, limbo truncato, obsolete ciliolato; corolla flavescens, 1 cm. longa, glabra, tubo 3.5 mm. longo, lobis lineari-oblongis, ad apicem attenuatis, marginibus minute papillosis; filamenta glabra, 2.5 mm. longa, antheris 2 mm. longis; ovarium glabrum.—Panama: Research Lagoon, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 405* (Herb. Field Mus. No. 579,181, type).

A tree with divided trunk and spreading crown.

Capsicum malacophyllum Standl., sp. nov.—Herba ramosa, ramis crassiusculis, flexuosis, dense breviterque villosis, viridibus, internodiis elongatis; folia solitaria, inaequalia, petiolo 1.5-5 cm. longo, gracili, dense breviterque villoso; limbus ovatus, late elliptico-ovatus, vel rotundato-ovatus, 4.5-14 cm. longus, 3-9.5 cm. latus, abrupte

acuminatus, acumine triangulari, acuto, basi late rotundatus et saepe inaequalis, tenuiter membranaceus, integer vel undulatus, fere concolor, utrinque sed subtus magis dense pilis brevibus mollibus albidis patentibus villosus, nervis lateralibus utroque latere c. 7, angulo acuto adscendentibus; flores ad axillas solitarii vel fasciculati, pedicellis gracilibus, 1.5-2 cm. longis, dense breviterque glanduloso-villosis; calyx campanulatus, 4 mm. longus, fructifer auctus, 8 mm. longus et adpressus, dense breviterque viscido-villosus, fere ad medium 5-lobatus, lobis triangularibus, acutiusculis; corolla flava, 9 mm. longa, ad medium 5-fida, lobis lanceolato-oblongis, obtusis, extus villosulis, tubo intus ad insertionem staminum villoso; stamina paullo infra medium corollae tubi inserta, filamentis crassis, glabris, 2 mm. longis, antheris oblongis, 2 mm. longis, obtusis, loculis rima longitudinali dehiscentibus; bacca subglobosa, 8-10 mm. lata, glabra; semina numerosa, obovoidea, brunnea, 1.2 mm. longa, reticulato-foveolata.—Mexico: Stream side, San Sebastián to Hacienda del Ototal, Sierra Madre Occidental, Jalisco, alt. 1,425 m., March 2, 1927, *Ynes Mexia 1780* (Herb. Field Mus. No. 579,893, type).

In general appearance this plant resembles closely *Lycianthes Pringlei* (Rob. & Greenm.) Bitter, but evidently it is referable rather to the genus *Capsicum*.

Solanum Mexiae Standl., sp. nov.—Frutex inermis, ramulis validis, 2-4.5 mm. crassis, subteretibus, dense foliatis, dense pilis stellatis albidis stipitatis tomentosis; folia inaequalia; folia majora: petioli validi, 10-14 mm. longi, supra anguste sulcati, dense stellato-tomentosi; limbus oblongo-ovatus, 5.5-7.5 cm. longus, 1.8-3.5 cm. latus, versus apicem obtusum angustatus, basi acutus et abrupte contractus, longe decurrens, integer, membranaceus, supra viridis, pilis minutis breviter stipitatis plerumque bifurcatis, ad nervos magis dense, conspersus, nervis inconspicuis, vix elevatis, subtus dense stellato-tomentosus, costa valida, elevata, nervis lateralibus utroque latere c. 8, adscendentibus, arcuatis; folia minora: petioli 4-5 mm. longi; limbus late ovatus, 1.5-3 cm. longus, 1-1.8 cm. latus, apice obtusus vel rotundatus, basi abrupte contractus et decurrens; pedicelli supra-axillares, solitarii, crassi, 5-7 mm. longi, dense stellato-tomentosi; calyx 3 mm. longus, profunde 5-lobatus, lobis ovato-oblongis, obtusis, stellato-tomentosis; bacca globosa, 9 mm. diam., apice rotundata, laevis, glabra; semina numerosa, valde compressa, margine incrassato.—Mexico: Rocky volcanic hillside, Ojos de Agua, near Ixtlán del Río, Nayarit, alt. 1,100 m., September 23, 1926, *Ynes Mexia 742* (Herb. Field Mus. No. 579,909, type).

BIGNONIACEAE

Phryganocydia brevicalyx Standl., sp. nov.—Ramuli graciles, subteretes, ochracei, striati, dense elevato-lenticellati, internodiis brevibus; folia 2-foliolata, petiolo 4-14 mm. longo, sparse puberulo vel glabro, petiolulis 5-12 mm. longis, supra canaliculatis et dense breviterque hirtellis; foliola elliptico-oblonga, 5.5-9 cm. longa, 3-5

cm. lata, prope apicem obtusum et saepe emarginatum paullo angustata, basi breviter cordata vel anguste rotundata, subcoriacea, lucida, glabra, supra griseo-viridia, nervis prominulis, utrinque puncticulata, subtus paullo pallidiora, costa crassiuscula, elevata, nervis lateralibus utroque latere 6-8, angulo lato adscendentibus, inaequalibus, curvatis vel fere rectis, remote a margine laxe conjunctis, nervulis prominulis, dense reticulatis; flores breviter racemosi, racemis terminalibus, laxe paucifloris, pedunculatis, foliis brevioribus vel aequilongis, pedicellis gracilibus, 7-12 mm. longis, glabris, bracteolis 1-2 subulatis minutis onustis, bracteis minutis, subulatis; calyx membranaceus, in alabastro clausus, per anthesin uno latere fere ad medium fissus, spathaceus, c. 17 mm. longus, pruinoso-puberulus vel fere glaber; corolla 5 cm. longa, extus sparse pilis gracillimis villosula, tubo superne ampliato, fauce c. 1.3 cm. lato, lobis, c. 12 mm. longis, rotundatis; discus annularis, 0.8 mm. altus; ovarium glabrum, oblongum, stylo gracili, glabro, 3 cm. longo.—British Honduras: Tower Hill, 1928, *J. S. Karling 39* (Herb. Field Mus. No. 579,925, type).

The only other Central American species, *P. corymbosa* (Vent.) Bur., differs in its much larger calyx and larger corolla.

Anemopaegma macrocarpa Standl., sp. nov.—Frutex scandens, cirrhiferus, ramulis gracilibus, teretibus, rimosis, viridescentibus, sparse et minute puberulis, ad nodos incrassatis, internodiis elongatis; folia 2–3-foliolata, opposita, petiolo 2.5-3 cm. longo, gracili, sparse et minute puberulo, appendicibus axillaribus stipuliformibus, late ellipticis, 1 cm. longis, acutiusculis, herbaceis, sessilibus; foliola petiolulata, petiolulo 8-10 mm. longo, sparse puberulo, limbo lanceolato-oblongo, 8.5-13.5 cm. longo, 3-4.8 cm. lato, longe acuminato, acumine obtuso, basi obtuso vel fere rotundato, integro, crasse membranaceo, glabro, utrinque dense impresso-punctulato, supra viridi, nitidulo, nervis prominulis, subtus vix pallidiore, costa gracili, elevata, nervis lateralibus utroque latere c. 8, angulo lato divergentibus, arcuatis; cymae axillares, solitariae, c. 3-florae, pedunculatae, pedunculo 1.8 cm. longo, pedicellis 8-15 mm. longis, minute puberulis; calyx campanulatus, 9-10 mm. longus, 8 mm. latus, basi obtusus, punctulatus, limbo truncato, ciliolato; corolla lutea, 4.5 cm. longa, extus glabra, intus infra insertionem staminum breviter villosa, tubo basi 4 mm. crasso, fauce 1 cm. lato, lobis c. 1 cm. longis; stamina inaequalia, ad apicem corollae partis angustatae inserta, filamentis gracilibus, glabris, 14-22 mm. longis, antherarum thecis pendulis, leviter arcuatis, 5 mm. longis, glabris; discus semiglobosus, 2.5 mm. latus, glaber; ovarium glabrum, stylo gracili, 3.5 cm. longo, stigmate 3 mm. longo; capsula compressa, elliptico-oblonga, laevis, glabra, 12.5 cm. longa, 3.5-4 cm. lata, versus apicem et basin abrupte acuminata; semina numerosa, suborbicularia, compressa, 1.5-2.5 cm. lata.—Panama: Cricamola Valley, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 202* (Herb. Field Mus. No. 579,497, type).

This plant is closely related to *A. punctulatum* Pitt. & Standl., of Panama and Costa Rica, but in that species the corolla is 7.5-8.5 cm. long.

Parmentiera macrophylla Standl., sp. nov.—Arbor 6 m. alta, trunco 7.5 cm. diam., ramulis gracilibus, teretibus, ochraceis, rimosis, glabris, lenticellis numerosis elevatis notatis, internodiis elongatis; folia opposita, trifoliolata, longe petiolata, petiolo 7.5-10 cm. longo, subtereti, supra anguste canaliculato, glabro, apice paullo incrassato; foliola longe petiolulata, petiolulo 1.3-3.5 cm. longo, gracili, basi incrassato, limbo anguste elliptico, ovato-elliptico, vel obovato-elliptico, 11-14 cm. longo, 5-6 cm. lato, abrupte acuminato, acumine anguste triangulari, attenuato, basi acuto et abrupte decurrente, integro, membranaceo, supra viridi, glabro, nervis prominulis, subtus pallidiore, minute albido-lepidoto, costa gracili, elevata, axillis domatiatis, nervis lateralibus utroque latere 6-7, angulo acuto adscendentibus, leviter arcuatis, pallidis, prope marginem laxe conjunctis; flores ad truncum fasciculati, pedicellis c. 1.5 cm. longis, glabris; calyx spathaceus, 3.3 cm. longus, glaber, uno latere ad basin partitus; corolla 5.5 cm. longa, glabra, tubo basi 1.2 cm. lato; stamina inaequalia, filamentis gracilibus, sparse pilosulis, antheris 4 mm. longis.—Panama: Daytonia Farm, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 402* (Herb. Field Mus. No. 579,184, type).

"Wild calabash." A small tree with clean bole. Flowers and fruits borne from pads on the main bole.

Perhaps most closely related to *P. edulis* DC., but in that the leaflets are much smaller and not lepidote, and the lateral ones are sessile.

ACANTHACEAE

Ruellia praeclara Standl., sp. nov.—Frutex, ramulis subteretibus, 6 mm. crassis, glabratis; petioli 3.5 cm. longi, graciles, sparse albido-hirsuti, supra sulcati; limbus oblanceolato-oblongus, 27-29 cm. longus, 8 cm. latus, apice abrupte acuminatus, acumine angusto, 3 cm. longo, attenuato-acuto, ad basin acuminatam longe angustatus, membranaceus, supra viridis, rhaphidibus brevibus linearibus crebris notatus, subtus paullo pallidior, sparse strigillosus, ad nervos strigosus, costa crassa, elevata, nervis lateralibus utroque latere c. 14, angulo lato adscendentibus, arcuatis, prope marginem laxe conjunctis; flores axillares, solitarii, pedicello 4 mm. longo, breviter pilosulo, bracteis linearibus, calyce dimidio brevioribus; calyx fere ad basin partitus, lobis anguste linearibus, 3-3.5 cm. longis, 1 mm. latis, viridibus, adpresso-hispidulis; corolla alba, 9 cm. longa, extus breviter glanduloso-villosula, tubo basi 4 mm. crasso, parte angusta 4 cm. longa, prope medium abrupte expanso, parte expansa 3.5 cm. longa, 12 mm. lata, limbo 5-lobato, lobis subaequalibus, rotundatis, 2 cm. longis, apice rotundatis, intus glabris; stamina inclusa, fila-

mentis gracillimis, hirtellis, superne glabris, antheris linearibus, 6 mm. longis; stylus gracillimus, 6 cm. longus, pilis adscendentibus hirtellus, stigmate 3 mm. longo; ovarium dense pilis brevibus patentibus pilosum.—Panama: Buena Vista, Chiriquí Trail, 1928, *G. P. Cooper 216* (Herb. Field Mus. No. 579,290, type).

The species is well marked by the large leaves and very long, white corolla.

RUBIACEAE

Alseis Eggersii Standl., sp. nov.—Ramuli novelli crassi, compressi, ochracei, glabri vel glabrati, internodiis elongatis; stipulae non visae; petioli c. 1 cm. longi, subteretes, supra canaliculati, glabrati; limbus elliptico-obovatus, acuminatus, basi obtusus et breviter decurrens, tenuis, supra glaber vel ad nervos obscure puberulus, subtus pilis mollibus patentibus pilosus, nervis lateralibus elevatis, numerosis, leviter arcuatis; spicae axillares, simplices vel pauciramosae, 13-17 cm. longae, densiflorae, pedunculatae, pedunculo 4-4.5 cm. longo, floribus sessilibus, rhachi pilis minutis patentibus vel subadpressis pilosa; capsulae anguste cylindrico-clavatae, 8-11 mm. longae, 2 mm. crassae, versus basin attenuatae, apice obtusae, brunneae, puberulae vel glabratae.—Ecuador: El Recreo, April 29, *Eggers 15,738* (Herb. Field Mus. No. 143,303, type).

The material at hand is fragmentary, no complete leaves being present, but it seems to indicate a species distinct from any of those known from Brazil or Colombia.

Condaminea breviflora Standl., sp. nov.—Omino glabra; ramuli crassiusculi, subteretes, rimosi, ochracei, internodiis brevibus; stipulae persistentes, 2-3 cm. longae, bifidae, lobis erectis, lineari-lanceolatis, longiattenuatis, venulosis; petioli crassi, 6-9 mm. longi; limbus obovato-oblongus, 19-27 cm. longus, 8-10.5 cm. latus, abrupte breviterque acuminatus, acumine triangulari, obtuso, basin versus sensim angustatus, basi ipsa truncata vel rotundata, crasse papyraceus, costa et nervis supra prominulis, subtus elevatis, nervis lateralibus utroque latere c. 18, angulo lato divergentibus, leviter arcuatis, juxta marginem conjunctis; corymbus terminalis, trichotomus, 13.5 cm. longe pedunculatus, ramis primariis 12-13 cm. longis, pedicellis crassis, 2-5 mm. longis; hypanthium clavatum, 6-7 mm. longum, apice 3 mm. latum, basi acutum; calyx 4 mm. longus, 7 mm. latus, truncatus; corollae tubus 1 cm. longus, 5 mm. latus, intus sparse villosus, lobis oblongis, 7 mm. longis, obtusis; antherae anguste oblongae, 6 mm. longae, exsertae; stylus crassiusculus, glaber, 13 mm. longus.—Ecuador: Zamora, eastern slopes of eastern Andes of Loja, alt. 800-1,200 m., *F. C. Lehmann 5651* (Herb. Field Mus. No. 578,485, type).

Evidently related to *C. corymbosa* (R. & P.) DC., which differs in its larger flowers and nearly sessile leaves.

Oregandra Standl., gen. nov.—Arbores glabrae; folia opposita, breviter petiolata, integra; stipulae deciduae; flores in paniculas terminales multifloras dispositi, pedicellati; hypanthium obovoideum; calyx brevis, 5-denticulatus; corolla cylindraceo-campanulata, tubo obconico, intus glabro, lobis 5, brevibus, rotundatis, imbricatis, uno exteriore; stamina 5, prope basin tubi inserta, filamentis exsertis, glabris, antheris majusculis, versatilibus, linearibus, basi profunde bifidis; discus magnus, tumidus; ovarium 2-loculare, stylo gracili, glabro, stigmatibus brevibus, linearibus, ovulis numerosis.

Type species, *Oregandra panamensis* Standl.

Oregandra panamensis Standl., sp. nov.—Arbor omnino glabra, ramulis crassis, teretibus vel compressiusculis, ochraceis vel novellis fuscis, sparse et minute lenticellatis, internodiis 2.5-11 cm. longis; stipulae non visae; petiolus crassus, 1-1.5 cm. longus, supra sulcatus; limbus oblongus, obovato-oblongus vel rarius ovatus, 14-22 cm. longus, 5.5-11.5 cm. latus, apice acutus vel subabrupte et brevissime acuminatus, acumine obtuso, basi acutus vel subrotundatus, subcoriaceus, supra viridis, nervis subimpressis, subtus paullo pallidior, costa crassiuscula, elevata, nervis lateralibus utroque latere 8-9, angulo angusto adscendentibus, fere rectis, prope marginem laxe conjunctis, nervulis obsoletis, margine subrevoluto; flores cymoso-paniculati, panicula multiflora, 6.5-7.5 cm. longa, 8-11 cm. lata, decussata, longipedunculata, pedunculo 8-9 cm. longo, cymulis densis, bracteis minutis, triangulari-acuminatis, pedicellis crassis, 2-4 mm. longis; calyx 1.5 altus, 2.5-3 mm. latus, remote 5-denticulatus; corollae tubus 3.5 mm. longus, basi 1.5 mm. latus, ore 3 mm. latus, intus glaber, lobis 1.5-2 mm. longis; filamenta c. 4 mm. longa, gracilia, glabra, paullo exserta, antheris linearibus, dorsifixis, 3 mm. longis; stylus 6 mm. longus, stigmatibus 0.8 mm. longis.—Panama: Talamanca Valley, 1927, *G. P. Cooper and G. M. Slater 144*; Yale No. 10,490 (Herb. Field Mus. No. 573,817, type), *149* (Yale No. 10,495).

Since mature fruit is not available, and all the ovaries are very young, the proper tribal position of this tree can not be determined satisfactorily. At first I was inclined to refer it to the genus *Sickingia*, to which it appears to be closely related. In that group, however, the corolla lobes are valvate, and the corolla tube is villous or barbate within.

Chimarrhis latifolia Standl., sp. nov.—Arbor 23 m. alta, trunco 45 cm. diam., ramulis 7-9 mm. crassis, subteretibus vel compressiusculis, ochraceis, rimosis, novellis gracilioribus, glabratis, internodiis plerumque 1-2.5 cm. longis; stipulae oblongo-triangulares, 2 cm. longae, acuminatae, crassae, deciduae, obscure et minute puberulae vel fere glabrae; folia opposita, petiolo 3.5-4 cm. longo, valido, supra plano, glabrato; limbus late obovato-ellipticus, 13.5-20 cm. longus, 8.5-11 cm. latus, apice obtusus vel rotundatus et interdum

acuminato-apiculatus, acumine 5-6 mm. longo, late triangulari, obtuso, basi subabrupte angustatus et acutus, crasse membranaceus, supra viridis, glaber, costa et nervis conspicuis sed non elevatis, subtus paullo pallidior, ad axillas breviter barbatus vel fere omnino glaber, costa gracili, elevata, nervis lateralibus utroque latere c. 11, gracilibus, prominentibus, angulo acuto adscendentibus, subarcuatis, juxta marginem conjunctis, nervulis inconspicuis; flores cymoso-corymbosi, corymbis dense multifloris, c. 2.5 cm. longis et 6 cm. latis, pedunculo 3 cm. longo, ramulis glabratis, pedicellis 1 mm. longis vel floribus sessilibus; capsula 5 mm. longa, fusca, glabra, obscure costata.—Panama: Progreso, Chiriquí, July-August, 1927, *G. P. Cooper and G. M. Slater 260*; Yale No. 10,613 (Herb. Field Mus. No. 573,160, type). Duplicate of type in U. S. Nat. Herb.

"Jagua amarilla." A large tree with high buttresses. Wood yellow, heavy and hard to split, the grain very crooked and crossed.

Chimarrhis latifolia is related to the recently described *C. parviflora* Standl., the latter differing in its smaller narrower leaves, on shorter petioles, and in its much smaller capsules.

Schizocalyx hirsutus Standl., sp. nov.—Arbor, ramulis crassiusculis, cortice brunnescente obtectis, pilis adscendentibus vel patentibus dense hirsutis, internodiis brevibus; folia opposita, petiolo crasso, c. 5 mm. longo, hirsuto; limbus oblanceolato-oblongus, 14-24 cm. longus, 6-7 cm. latus, abrupte acuminatus, acumine c. 1.5 cm. longo, anguste triangulari, acuminato, basin versus angustatus, basi ipsa obtusa vel acuta, membranaceus, supra viridis, sparse hirsutus, costa paullo elevata, nervis non elevatis, subtus paullo pallidior, undique pilis patentibus gracilibus rigidis hirsutus, costa gracili, elevata, nervis lateralibus utroque latere c. 19, angulo lato adscendentibus, gracillimis, elevatis, arcuatis, prope marginem conjunctis; flores cymoso-paniculati, panicula terminali, c. 10 cm. longa et 15 cm. lata, pauciramosa, 5 cm. longe pedunculata, ramis primariis oppositis, divaricatis, 2-4.5 cm. longis, dense hirsutis, apice trichotomis, ramulis cymulis densis paucifloris terminatis; pedicelli 3-5 mm. longi, hirtelli; bracteae primariae foliaceae, rhombico-ellipticae, c. 1 cm. longae et 6 mm. latae, basi abrupte in petiolum 1 cm. longum contractae, bracteis cymularum lanceolatis vel lanceolato-linearibus, 3-9 mm. longis, adpresso-pilosis; hypanthium obconicum, 3 mm. longum, basi acutiusculum, dense adpresso-pilosum; calyx 4-5 mm. longus, in alabastro clausus, corolla erumpente fissus et denique fere ad basin bilobus, lobis acutis vel obtusiusculis, persistentibus, extus pilis griseis adscendentibus dense obtectis, intus glabris, calycis lobo uno interdum in limbum magnum album 2 cm. longe petiolatum expanso, limbo late elliptico, c. 7 cm. longo et 5 cm. lato, basi et apice rotundato, venoso, utrinque pilis subadpressis brevibus hirsuto; corolla tubulosa, infundibuliformis, extus glabra, tubo 8 mm. longo, superne vix dilatato, intus supra insertionem staminum breviter villoso, lobis rotundatis, recurvis, glabris; stamina

supra medium tubi inserta, filamentis e corolla breviter exsertis, inferne villosulis, superne glabris, antheris oblongis, 2.5 mm. longis; stylus gracilis, superne pilulis paucis brevibus adpressis indutus, 8 mm. longus, stigmatis ramulis linearibus, recurvis, fere 2 mm. longis.—Colombia: Between Nariño and El Tambor, Dept. Santander, in thickets along trail, alt. 150-300 m., December 4, 1926, *E. P. Killip and Albert C. Smith 14,959* (U. S. Nat. Herb. No. 1,350,921, type).

I have seen no material of *S. bracteosus* Wedd., but the present plant, although clearly congeneric, does not agree with the description of that species in several important details. In *S. bracteosus* the leaves are described as ovate-oblong and puberulent beneath, glabrate above, terms which could scarcely be so misapplied as to refer to *S. hirsutus*; and the bracts are described as ovate and the hypanthium as oblong.

Rondeletia bertieroides Standl., sp. nov.—Arbor 6-metralis, trunco 7.5 cm. diam., ramulis gracilibus, subteretibus, rufobrunneis, novellis albido-tomentosis, cito glabratis, internodiis 1.5-5 cm. longis; stipulae 4-5 mm. longae, anguste triangulares, subulato-acuminatae, erectae, primo tomentosae, mox glabratae; petioli graciles, 7-10 mm. longi, glabrati; limbus elliptico-oblongus vel ovato-oblongus, 8.5-13 cm. longus, 3-4.5 cm. latus, acuminatus vel longiacuminatus, acumine saepe falcato, acutiusculo, basi acutus, membranaceus, supra viridis, glaber, subtus pallidior, statu juvenili sparse tomentosus, cito glabratus, costa gracili, elevata, nervis lateralibus utroque latere c. 9, angulo acuto adscendentibus, leviter curvatis, prope marginem conjunctis; inflorescentia terminalis, cymoso-paniculata, panicula thyrsiformi, c. 11 cm. longa et 5 cm. lata, pedunculata vel e basi ramosa, ramulis tenuiter tomentellis, bracteis primariis linearibus, ad 6 mm. longis, ceteris minutis, floribus ad ramulos sessilibus vel 1 mm. longe pedicellatis; hypanthium ellipsoideum, 1.5 mm. longum, albido-tomentosum; calycis lobi 4, maxime inaequales, lobis 3 triangularibus, acutis, vix 1 mm. longis, lobo quarto 2-2.5 mm. longo, rotundato-obovato, apice rotundato, herbaceo, sparse tomentello; corolla alba, sparse albido-tomentella, tubo gracili, 12 mm. longo, vix 1 mm. crasso, lobis 4, rotundatis, 2.5 mm. longis; capsula 4 mm. longa, costata.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 900 m., 1928, *G. P. Cooper 598*; Yale No. 12,231 (Herb. Field Mus. No. 579,614, type).

Related to *R. aetheocalymna* Donn. Smith, of Guatemala, but in that the leaves are glabrous, the calyx lobes much longer, and the corolla tube only 7-8 mm. long.

Rondeletia Cooperi Standl., sp. nov.—Arbor 6-metralis, trunco 5 cm. diam., ramulis gracilibus, subteretibus, dense puberulis, internodiis elongatis; stipulae late triangulares, 2.5 mm. longae, acutae

vel acuminatae, extus et intus adpresso-pilosulae; petioli graciles, 5-6 mm. longi, puberuli; limbus oblongo-ellipticus vel ellipticus, 9-15 cm. longus, 4-5.5 cm. latus, abrupte acuminatus, acumine recto vel falcato, 1-1.5 cm. longo, obtuso, basi acutus vel longiattenuatus, membranaceus, supra viridis, glaber, nervis conspicuis sed non elevatis, subtus vix pallidior, ad nervos minute puberulus, costa gracili, elevata, nervis lateralibus gracillimis, angulo lato adscendentibus, arcuatis, juxta marginem conjunctis; flores cymoso-corymbosi, corymbis terminalibus, 3-6 cm. longis, 4-11 cm. latis, longipedunculatis, pedunculo 8-9 cm. longo, trichotomis, ramulis dense puberulis, cymis densis, paucifloris, floribus sessilibus vel 1 mm. longe pedicellatis; hypanthium oblongum, 2.5 mm. longum, dense pilis minutis griseis adscendentibus pilosulum; calycis lobi 4, valde inaequales, lobis 3 triangulari-oblongis, 1.5 mm. longis, obtusis, viridibus, erectis, lobo quarto ovato vel elliptico, 3-5 mm. longo, obtuso, viridi, adpresso-pilosulo; corolla alba, extus pilis minutis adpressis albidis dense obtecta, tubo 1 cm. longo, vix 1 mm. crasso, lobis 4, rotundatis, 4 mm. longis, extus versus marginem glabris.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 600*; Yale No. 12,233 (Herb. Field Mus. No. 579,596, type).

According to the collector's notes, the flowers are fragrant, and the leaves are very glossy, but the latter character is not apparent in the dried specimens.

This species, also, is a relative of *R. aetheocalymna*, differing in the shorter corolla, thinner and glabrous leaves, and sessile or short-pediceled flowers. From *R. bertieroides* the present plant differs conspicuously in the broad cymose inflorescence, that of *R. bertieroides* being thyrsiform-paniculate.

Deppea macrocarpa Standl., sp. nov.—Frutex 0.6-1.2 m. altus, ramosus, ramulis gracilibus, subteretibus, rufo-brunneis, rimosis, glabris vel pilis paucis brevibus patentibus pilosulis, internodiis 1-2.5 cm. longis; stipulae erectae, persistentes, 2-2.5 mm. longae, triangulares vel late deltoideae, acutae; folia opposita, petiolis gracilibus, 1.2-3.5 cm. longis, sparse pilosis vel glabratis; limbus ovato-ellipticus vel oblongo-ellipticus, 6-11 cm. longus, 2.3-4 cm. latus, longiacuminatus, acumine 1.5-2 cm. longo, recto vel subfalcato, acutiusculo, basi acutus vel attenuatus, interdum abrupte acuminatus, membranaceus, ciliatus, supra viridis, sparsissime pilosus vel glaber, nervis non elevatis, subtus vix pallidior, ad nervos plus minusve pilis mollibus albidis adscendentibus villosulus vel fere glaber, costa gracili, elevata, nervis lateralibus utroque latere 8-9, angulo acuto adscendentibus, gracillimis, leviter arcuatis, juxta marginem laxe conjunctis; flores cymoso-paniculati, panicula terminali, c. 4 cm. longa et 4.5 cm. lata, laxe multiflora, decussata, pedunculo 1.8 cm. longo, ramulis sparse pilosis, pedicellis gracilibus, 1-6 mm. longis, in fructu saepe ab apice recurvatis, sparse pilosis vel glabratis; calycis lobi persistentes, lineares, 2-3 mm. longi.

patentes vel recurvati, sparse pilosuli vel glabrati, marginibus revolutis; capsula ovalis, bisulcata, 5-6 mm. longa, 4-4.5 mm. lata, brunnea, glabrata, obscure costata; semina numerosissima, minuta, angulata, brunnea.—Mexico: In thickets, Cerro de San Juan, west of Tepic, Nayarit, alt. 1,000 m., September 19, 1926, *Ynes Mexia 727* (Herb. Field Mus. No. 579,908, type).

Vernacular name, "pie de pájaro."

Related to *D. pubescens* Hemsl., but in that the capsules are only 3 mm. long, and the calyx lobes are ovate-deltoid.

Deppea hamelioides Standl., sp. nov.—Frutex 0.25-1 m. altus, ramulis gracilibus, teretibus, ochraceis vel brunnescentibus, minute puberulis, internodiis plerumque 1.3-6 cm. longis; stipulae triangulares, acutae, vix 1 mm. longae; petioli gracillimi, 1-4.8 cm. longi, puberuli; limbus ovatus vel ellipticus, 3.5-6.5 cm. longus, 1.5-3 cm. latus, acutus vel acutiusculus, basi acutus vel longe attenuatus, tenuiter membranaceus, supra viridis, sparse scaberulus vel glabratus, nigro-puncticulatus, subtus pallidior, praecipue ad nervos puberulus, costa gracillima, nervis lateralibus utroque latere 5-6, angulo acuto adscendentibus; flores cymoso-corymbosi, corymbis axillaribus, laxis, multifloris, folia fere aequantibus, 2.5-7 cm. latis, 1.5-4 cm. longis, longipedunculatis, pedunculo gracili, 2-3.5 cm. longo, pedicellis gracilibus, 6-12 mm. longis, sparse et minute puberulis vel glabratis; calycis lobi ad apicem capsulae persistentes, triangulari-oblongi, c. 1 mm. longi; capsula ovalis, 4 mm. longa, 3 mm. lata, basi et apice rotundata, viridis, obscure costata, glabra vel obscure scaberula; semina numerosa, minute, brunnescentia, reticulata.—Mexico: Stream bank, Segundo Arroyo, San Sebastián, Sierra Madre Occidental, Jalisco, alt. 1,500 m., *Ynes Mexia 1546a* (Herb. Field Mus. No. 579,899, type).

Distributed as *D. erythrorhiza* Schlecht. & Cham., to which the plant is not closely related. Its nearest relatives are *D. pubescens* Hemsl., which has short villosulous petioles, shorter pedicels, and smaller capsules; and *D. macrocarpa*, described above, which is distinguished by its long calyx lobes.

Macrocnemum rotundatum Standl., sp. nov.—Ramuli crassiusculi, subcompressi, brunnei, glabri, internodiis 3.5-7 cm. longis; stipulae late ellipticae vel rotundatae, 1.5-2.3 cm. longae, 12-14 mm. latae, apice rotundatae, glabrae, brunnescentes, deciduae; petioli 3-10 mm. longi, glabri, graciles, supra late sulcati; limbus ovali-obovatus vel obovato-oblongus, in foliis minoribus interdum subrotundatus, 4.5-12.5 cm. longus, 3-6.5 cm. latus, apice rotundatus vel obtusissimus, basi acutus vel rarius obtusus vel rotundatus, crasse membranaceus, supra viridis, glaber, nervis vix elevatis, subtus brunnescens, glaber vel ad nervos strigillosus, in axillis saepe dense breviterque barbatus, costa gracili, elevata, nervis lateralibus

utroque latere c. 10, gracilibus, prominentibus, angulo acuto adscendentibus vel inferioribus divaricatis, leviter arcuatis, prope marginem laxe conjunctis; paniculae axillares, laxe pauci- vel multiflorae, 5-6.5 cm. longae, 5-8 cm. longe pedunculatae, basi foliaceo-bracteatae, bracteis ovatis, obtusis, 12-18 mm. longis, ramulis divaricatis, bifariam ferrugineo-puberulis, bracteis superioribus triangulari-ovatis, acuminatus, 2-4 mm. longis, glabris; hypanthium oblongum, 4.5 mm. longum, glabrum; calyx breviter 5-dentatus, dentibus latissime triangularibus, acutis vel abrupte apiculatis; corolla extus glabra, tubo 7-8 mm. longo, 2.5 mm. lato, lobis reduplicato-valvatis, ovato-rotundatis, apice rotundatis, intus puberulis; stylus gracilis, glaber, 6-7 mm. longus; capsula immatura anguste oblongo-clavata, curva, 1.5 cm. longa, 3 mm. lata, basin versus attenuata, glabra.—Colombia: Buesaco, alt. 1,800-2,100 m., "June, July," *F. C. Lehmann 6303* (Herb. Field Mus. No. 578,682, type).

From the present species *Macrocnemum grandiflorum* differs in its long corolla and acuminate leaves; *M. pubescens* (Benth.) Wedd. in its pubescent, acuminate leaves; and *M. pastoense* Karst. in its pubescent corolla.

Manettia asperifolia Standl., sp. nov.—Frutex volubilis, ramulis acute quadrangulatis, gracilibus, brunneis vel ochraceis, pilis brevibus recurvis dense indutis, internodiis elongatis; stipulae anguste triangulares, acutae, puberulae, erectae, persistentes; folia opposita, petiolo 3-6 mm. longo, dense et minute piloso; limbus ovatus, oblongo-ovatus, vel ellipticus, 2-6 cm. longus, 1-3 cm. latus, acutus, abrupte acuminatus, vel rarius obtusus, basi rotundatus vel obtusus, crassus, utrinque dense asperulo-puberulus, nervis supra inconspicuis, subtus pallidior, costa et nervis elevatis, gracilibus, nervis lateralibus utroque latere 5-6, angulo acuto adscendentibus, arcuatis, marginem fere attingentibus; cymae axillares, dense multiflorae, sessiles vel 2-3 mm. longe pedunculatae, pedicellis gracilibus, 4-10 mm. longis, dense breviterque pilosis; hypanthium obovoideum, 2-2.5 mm. longum, dense brunnescenti-pilosum; calyx plerumque 8-partitus, laciniis inaequalibus, viridibus, lanceolatis vel anguste ovatis, 3-6 mm. longis, acuminatis, prope basin sensim contractis, utrinque dense puberulis; corolla rubra, extus subdense breviterque pilosula, tubo 12-22 mm. longo, basi 2.5 mm. lato, superne vix ampliato, fauce 3 mm. lato, in fauce densissime barbato, lobis obovato-rotundatis et interdum obtuse breviterque productis.—Bolivia: Yungas, alt. 1,800 m., 1885, *H. H. Rusby 2159* (Herb. Field Mus. No. 164,361, type). In forests, Buenavista, Dept. Santa Cruz, alt. 400 m., *Steinbach 5598, 7065*.

The plant is exceptionally variable as to size of corolla, even upon the same branch, and the leaves also exhibit some variation in shape, but all these specimens are probably conspecific. *M. asperifolia* is related to the Peruvian *M. hispida* Poepp. & Endl., but that is described as having hispid branches and 1–5-flowered

inflorescences. It is stated, also, that the corolla is furnished with sparse stiff hairs; those upon the corolla of *M. asperifolia* are very slender and weak.

Manettia Bangii (Rusby) Standl., comb. nov. *Lygistum Bangii* Rusby, Mem. Torrey Club 3^3: 43. 1893.

In his account of the Genus Manettia (p. 33. 1919) Wernham lists this plant as "*M. Bangii* Rusby, in Mem. Torr. Bot. Club III. iii. 43. (1893)," but Rusby published the name as "*Lygistum* (*Manettia*) *Bangii*," citing *Manettia* only as a generic synonym. It is evident, therefore, that Wernham's citation is a careless and incorrect one, and that a new transfer is necessary.

Manettia Lehmannii (Wernh.) Standl., comb. nov. *Neosabicea Lehmannii* Wernh. Journ. Bot. 52: 225. *pl. 533*. 1914.

Wernham referred his new genus, *Neosabicea*, to the tribe Mussaendeae, upon the presumption that the fruit was baccate, but this was only a guess, for he had not seen the fruit. Examination of the type collection, *Lehmann 3514* from Colombia, discloses no obvious reason for excluding the plant from the genus *Manettia*. Its general appearance is that of many other species of *Manettia*, and the structural details are those of that genus.

Manettia cryptantha Standl., sp. nov.—Frutex scandens, caulibus subteretibus, fusco-olivaceis, dense et minute puberulis; stipulae subvaginantes, c. 1 mm. longae, latissime triangulares, laciniato-denticulatae; petioli 3-6 mm. longi, puberuli; limbus ovato-ellipticus vel oblongo-ovatus, 4-6 cm. longus, 1-2 cm. latus, acute acuminatus, basi obtusus vel subrotundatus, membranaceus, fere concolor, supra glaber, nervis inconspicuis, subtus ad nervos sparse breviterque pilosus vel glabratus, costa et nervis gracilibus, prominulis, nervis lateralibus utroque latere c. 8, angulo acuto adscendentibus, arcuatis; flores umbellato-cymosi, cymis axillaribus, solitariis, paucifloris, 1-1.5 cm. longe pedunculatis, foliis aequilongis vel brevioribus, bracteis magnis, foliaceis, lanceolatis, usque ad 1 cm. longis, pedicellis gracilibus, erectis; hypanthium 5-13 mm. longum, basi acutisculum, minute puberulum; calyx ad basin 4-partitus, laciniis lanceolatis vel lineari-lanceolatis, 5-8 mm. longis, acuminatis, viridibus, glabratis; corolla alba, extus sparse puberula, tubo 7 mm. longo, 1.2 mm. lato, lobis 3 mm. longis, lanceolato-oblongis, obtusis, intus versus basin sparse breviterque villosis; capsula obovoidea, glabrata, 8 mm. longa, 6 mm. lata, basi acuta.—Colombia: In forest, Cordillera Oriental, east of Neiva, Dept. Huila, alt. 1,800-2,300 m., August 1-8, 1917, *H. H. Rusby and F. W. Pennell 871* (Herb. N. Y. Bot. Gard., type), *879* (U. S., N. Y.), *648* (N. Y.).

In general appearance the plant resembles *M. Lehmannii* (Wernh.) Standl., but in that the pubescence is much more abundant and composed of longer hairs, and the corolla tube is conspicuously longer than the calyx segments. *M. cryptantha* is easily recognized by the unusual development of the calyx lobes, which are sometimes longer than the corolla.

Manettia vacillans Standl., sp. nov.—Frutex scandens, caulibus vetustioribus subteretibus, ochraceis, novellis dense puberulis; stipulae breviter vaginantes, acutae, 2 mm. longae, puberulae; petioli 3-4 mm. longi, dense cano-puberuli; limbus ovatus, late ovatus, vel ellipticus, 2.5-3.5 cm. longus, 1.2-2.2 cm. latus, breviter acuminatus vel rarius tantum acutus vel obtusus, basi rotundatus vel obtusus et interdum abrupte contractus, membranaceus, supra viridis, statu juvenili sparse adpresso-pilosus, mox glabratus, subtus pallidior, tantum ad nervos sparse tomentulosus vel fere glaber, costa et nervis gracilibus, prominulis, nervis lateralibus utroque latere c. 5, angulo acuto adscendentibus, valde arcuatis, margine plana; inflorescentiae axillares, umbellatim 1–3-florae, ad 1.5 cm. longe pedunculatae, umbella saepe basi bracteis 2 foliis conformibus 6-8 mm. longis fulcrata, pedicellis gracilibus, 3-8 mm. longis, cinereo-puberulis; hypanthium 2 mm. longum, tomentulosum; calyx ad basin divisus, lobis 8, rarius 4, 2.5-5 mm. longis, inaequalibus, lanceolatis vel ovatis, acuminatis, planis, prope basin contractis, patentibus vel recurvis, obscure tomentulosis vel fere glabris; corolla extus glabra, tubo 11-12 mm. longo, prope medium 1.5 mm. lato, insuper ampliato, fauce 5 mm. lato, lobis ovatis, obtusis, 3-5 mm. longis, intus minute tomentulosis.—Peru: In moist ravine, mountains northeast of Huanta, Prov. Ayacucho, alt. 3,100-3,200 m., February, 1926, *A. Weberbauer 7509* (Herb. Field Mus. No. 562,416, type).

Corolla reddish white, turning rose. A fragmentary specimen in the U. S. National Herbarium from Paucartambo Valley, alt. 3,500 m., *F. L. Herrera 1404*, is, apparently, conspecific. The species is well marked among the Peruvian Manettias by the prevailingly 8, broad, recurved calyx lobes and nearly glabrous foliage.

Manettia veronicoides Standl., sp. nov.—Scandens, caulibus gracilibus, subteretibus, novellis sparse puberulis, mox glabratis; stipulae vaginantes, vagina 2 mm. longa, parte libera late triangulari, acuminata, puberula; petiolus 2-3 mm. longus, villosulus vel glabratus; limbus ovatus vel lanceolato-ovatus, 2.3-4.5 cm. longus, 0.8-1.6 cm. latus, subabrupte et longissime acuminatus, basi rotundatus vel obtusus, crasse membranaceus, supra viridis, glaber, nervis conspicius, subtus brunnescens, tantum ad costam sparse tomentulosus vel glaber, costa crassiuscula, elevata, nervis lateralibus utroque latere 5-6, angulo lato adscendentibus, valde arcuatis, gracilibus; flores umbellato-paniculati, paniculis terminalibus et axillaribus,

angustis, laxe multifloris, foliatis vel nudis, bracteis saepe foliaceis et foliis conformibus, 2-8 mm. longis, umbellis paucifloris, pedicellis 2.5-4 mm. longis, puberulis; hypanthium obovoideum, 1-1.5 mm. longum, sparse puberulum; calyx 4-partitus, lobis oblongo-triangularibus, acutis, glabris, 1-1.5 mm. longis, erectis; corolla extus glabra, tubo 2.5 mm. longo, 1.5 mm. lato, lobis oblongis, obtusis, 2.5 mm. longis, intus minute tomentulosis; capsula obovoideo-globosa, 3-4 mm. longa, basi obtusa, atrobrunnea, glabra; semina compressa, 1.5 mm. longa, atro-brunnea, late alata.—Peru: Between the tambos Tres Cruces and Tambomayo, Prov. Paucartambo, Dept. Cuzco, alt. 2,400 m., May, 1914, *A. Weberbauer 6971* (Herb. Field Mus. No. 548,961, type).

Manettia veronicoides, because of its very small corolla, must be closely related to *M. paniculata* Poepp. & Endl., also Peruvian, of which I have seen no material. The latter is described as being quite glabrous throughout, with leaves acute at base.

Manettia tomentulosa Standl., sp. nov.—Scandens, caulibus gracilibus, vetustioribus ochraceis, teretibus, novellis dense puberulis; stipulae breviter vaginantes, subtruncatae, mucronatae, laciniato-denticulatae; petiolus gracilis, 2-8 mm. longus, puberulus; limbus oblongo-ovatus, elliptico-oblongus, vel lanceolato-oblongus, 3-7 cm. longus, 1-3 cm. latus, abrupte et longiuscule acuminatus, basi rotundatus vel obtusus, crasse membranaceus, supra viridis, sparse et minute adpresso-pilosus vel glabratus, costa et nervis leviter impressis, subtus pallidus, minute et subdense tomentulosus, costa gracili, elevata, nervis lateralibus utroque latere c. 8, angulo acuto adscendentibus, arcuatis, prope marginem conjunctis, margine plana vel revoluta; flores umbellati, umbellis laxe paucifloris, axillaribus, breviter vel ad 6 mm. longe pedunculatis, paniculam terminalem angustam nudam vel foliatam efformantibus, pedicellis gracilibus, 6-8 mm. longis, puberulis; capsula subglobosa, 3.5 mm. longa basi rotundata, minute puberula, obscure costata; calycis lobi 4, ad apicem capsulae persistentes, oblongi vel ovati, obtusi, erecti, 0.6 mm. longitudine vix superantes; semina compressa, 1.5 mm. longa, atro-brunnea, alata.—Peru: La Merced, Hacienda Schunke, alt. 1,200 m., August 27 to September 1, 1923, *J. Francis Macbride 5772* (Herb. Field Mus. No. 536,802, type).

The corollas, which are important in determining the position of the species, are not known in the present plant. It can not be referred to any of the species previously reported from Peru, the chief distinguishing characters being the fine tomentum of the leaves and the minute calyx lobes.

Manettia Schunkei Standl., sp. nov.—Frutex scandens, caulibus gracilibus, quadrangulatis, vetustioribus ochraceis, novellis dense reflexo-hirtellis; stipulae triangulares, 1.5 mm. longae, acutae,

erectae, hirtellae; petiolus 4-8 mm. longus, gracilis, hirtellus; limbus lanceolato-ovatus vel ovato-ellipticus, 2.5-5.5 cm. longus, 1.3-2.5 cm. latus, sensim vel abrupte acuminatus, acumine acuto, basi rotundatus vel obtusus, crasse membranaceus, supra viridis, subnitidus, sparse scaberulus, costa impressa, nervis lateralibus obsoletis, nervulis plerumque prominulo-reticulatis, subtus pallidus, dense scaberulus, costa gracili, elevata, nervis lateralibus utroque latere c. 8, angulo lato adscendentibus, gracillimis, inconspicuis, margine anguste revoluta; cymae umbelliformes, in axillis sessiles vel brevissime pedunculatae, laxe pauciflorae, foliis multo breviores, pedicellis 3-7 mm. longis, breviter pilosis; hypanthium dense breviterque pilosum; calyx ad basin divisus, lobis 8, foliaceis, viridibus, lanceolatis vel ovatis, acutis vel acuminatis, puberulis, 3-4 mm. longis, basin versus in petiolulum contractis; corolla extus sparse puberula, tubo 13 mm. longo, 1.5 mm. lato, sparse dilatato, fauce 4 mm. lato, in fauce dense barbato, lobis ovato-oblongis, 6 mm. longis, 3 mm. latis, acutis, intus glabris.—Peru: Chanchamayo Valley, Dept. Junín, alt. 1,200 m., October, 1924-27, *Carlos Schunke 362* (Herb. Field Mus. No. 571,416, type).

In Wernham's key to the species of "The Genus Manettia," this plant runs to *M. congesta* (Vell.) Schum., of Brazil, but in that the young stems and leaves are villous-pubescent.

Manettia peruviana Standl., sp. nov.—Frutex scandens, caulibus vetustioribus subteretibus, gracilibus, ochraceis, novellis quadrangularibus, pilis brevibus pallidis dense villosis; stipulae basi vaginantes, parte libera triangulari, acuta, villosula, 2.5 mm. longa; petiolus 2-4 mm. longus, villosulus; limbus oblongo-ovatus, 2.5-4.5 cm. longus, 1-2.3 cm. latus, acutus vel breviter acuminatus acumine acuto vel acuminato, basi rotundatus, crasse membranaceus, supra viridis, scaber et sparse villosulo-puberulus, costa subimpressa, nervis obscuris, subtus dense tomentosus, tomento flavo-griseo, nitidulo, costa gracili, elevata, nervis lateralibus tomento fere occultis, margine revoluto; flores umbellati, umbellis laxe paucifloris, sessilibus vel ad 5 mm. longe pedunculatis, pedicellis gracilibus, 6-13 mm. longis, albido-villosulis; hypanthium 1.5 mm. longum, tomentellum; calyx 4-partitus, lobis triangulari-ovatis, acutis, 1.5-2 mm. longis, in statu fructifero saepe accrescentibus et ad 4 mm. longis, extus tomentellis; corolla rubra, extus subdense et brevissime villosa, tubo 8 mm. longo, 2 mm. lato, cylindrico, fauce glabro, lobis late ovatis, obtusis, 2 mm. longis; capsula didymo-globosa, 4 mm. longa, 5-6 mm. lata, villosula.—Peru: Mito, alt. 2,700 m., July, 1922, *Macbride and Featherstone 1395* (Herb. Field Mus. No. 517,896, type). Tambillo, 7 miles southwest of Panao, alt. 2,400 m., May 8, 1923, *Macbride 3571*.

Among the 19 species of *Manettia* known from Peru, this is easy to recognize because of the dense yellowish glistening tomentum of the lower leaf surface.

Manettia modica Standl., sp. nov.—Frutex scandens, caulibus gracilibus, vetustioribus subteretibus, novellis sordide villosulis; stipulae brevissime vaginantes, truncatae, setis paucis subulatis 1-2 mm. longis onustae; petioli crassiusculi, puberuli, c. 2 mm. longi; limbus lanceolatus vel ovato-lanceolatus, 2-3.5 cm. longus, 0.6-1 cm. latus, longiacuminatus, basi obtusus, crassiusculus, utrinque pilis debilibus brevibus sparse villosus vel glabratus, supra viridis, costa impressa, subtus pallidus, costa et nervis elevatis, nervis lateralibus utroque latere 4-5, angulo acuto adscendentibus, margine revoluta; flores umbellati, umbellis paniculas breves angustas foliatas vel fere nudas efformantibus, breviter pedunculatis, pedicellis c. 6 mm. longis, superne incrassatis, minute puberulis; capsula clavato-obovoidea, 5 mm. longa, 3-4 mm. lata, apice rotundata, basi acuta et longe attenuata, sparse et minute puberula vel glabrata; calycis lobi 4, ad apicem capsulae persistentes, late ovati, acuti, glabrati.—Peru: Villcabamba, on Río Chinchao, alt. 1,800 m., July 17-26, 1923, *J. Francis Macbride 5154* (Herb. Field Mus. No. 536,197, type).

Apparently this is an ally of the Peruvian *M. thysanophora* Wernh., but in that the leaves are described as elliptic, the petioles as 7-8 mm. long, and the calyx lobes as obtuse.

Manettia calycosa Griseb., var. **latifolia** Standl., var. nov.—Folia petiolata, limbo rotundato-ovato, 5-5.5 cm. longo, 3.5-4 cm. lato, abrupte et acute acuminato, basi late rotundato; ceteris formae typicae similis.—Colombia: Between Chinácota and La Esmeralda, Dept. Norte de Santander, alt. 1,000-1,300 m., March 19, 1927, *E. P. Killip and Albert C. Smith 20855* (U. S. Nat. Herb. No. 1,355,819, type).

Except for its very broad leaves, this plant agrees with the numerous specimens of *M. calycosa* available for study. The flowers are more numerous and on somewhat longer pedicels than is usual in the species.

Manettia rivulorum Standl., sp. nov.—Frutex scandens, caulibus gracilibus, subteretibus, novellis breviter adpresso-pilosis; stipulae vix vaginantes, erectae, c. 1 mm. longae, rotundatae, laciniato-denticulatae; petiolus gracilis, 5-10 mm. longus, adpresso-pilosus; limbus ellipticus vel ovato-ellipticus, 4-5.5 cm. longus, 2-2.5 cm. latus, abrupte breviterque acuminatus, acumine acuto, basi acutus vel obtusus, membranaceus, supra viridis, minute adpresso-pilosulus, nervis inconspicuis, subtus pallidior, praesertim ad nervos sparse strigillosus, costa et nervis gracilibus, prominulis, nervis lateralibus utroque latere 5-6, angulo acuto adscendentibus, arcuatis, margine plana; flores cymosi, cymis axillaribus, solitariis, umbelliformibus vel dichotomis, laxe paucifloris, foliis fere aequilongis, 6-12 mm. longe pedunculatis, bracteis plerumque lanceolatis et 2-3 mm. longis, pedicellis 5-12 mm. longis, sparse hirtellis; calyx 4-partitus, lobis ad apicem capsulae persistentibus, 2-2.5 mm. longis, ellipticis, acutis et

apiculatis, ciliolatis, fere glabris; capsula globoso-obovoidea, 6-7 mm. longa, basi acuta, glabrata; semina compressa, fusca, lucida, 3 mm. longa, late alata.—Colombia: Dense woods along stream, Las Vegas, Dept. Santander, alt. 2,600-3,000 m., December 21-23, 1926, *E. P. Killip and Albert C. Smith 16058* (U. S. Nat. Herb. No. 1,351,834, type).

The plant presents no outstanding characters, and because of the absence of corollas its affinities are uncertain, but it has not been possible to refer it satisfactorily to any of the species known from Colombia.

Manettia suratensis Standl., sp. nov.—Herba scandens, caulibus gracilibus, subteretibus, viridibus, sparse pilis debilibus patentibus albidis villosis, internodiis maxime elongatis; stipulae brevissime vaginantes, vix 1.5 mm. longae, subtruncatae, laciniato-dentatae; petiolus gracilis, 8-18 mm. longus, pilosus; limbus lanceolatus vel ovato-lanceolatus, 4.5-8 cm. longus, 1.5-3 cm. latus, longissime et anguste acuminatus, basi acutus vel abrupte contractus et longe decurrens, membranaceus, supra viridis, sparse et breviter adpresso-pilosulus, subtus paullo pallidior, pilis mollibus albidis sparse pilosus, costa et nervis gracillimis, prominulis, nervis lateralibus utroque latere 7-8, angulo acuto adscendentibus, arcuatis, nervulis inconspicuis, margine plana; flores axillares, solitarii vel fasciculati, pedicellis gracilibus, c. 7 mm. longis, pilis gracilibus multicellularibus villosis; hypanthium obovoideum, 2.5 mm. longum, basi obtusum, dense villosum; calyx fere ad basin 8-lobus, laciniis linearibus vel lanceolato-oblongis, 2-3 mm. longis, viridibus, acutis, recurvis, sparse villosis; corolla extus sparse pilis longis villosa, tubo viridi, 8 mm. longo, 2.2 mm. lato, fauce dense et longe barbato, lobis oblongo-ovatis, albis, patentibus, 5 mm. longis, obtusis, intus glabris.—Colombia: In thicket along river, Suratá, Dept. Santander, alt. 1,700 m., January 4-10, 1927, *E. P. Killip and Albert C. Smith 16811* (U. S. Nat. Herb. No. 1,352,503, type).

Related, apparently, to *M. Pearcei* Wernh., of Colombia, but in that the corolla tube is 15 mm. long and merely puberulent, and the calyx lobes are 5 mm. long.

Manettia echitidea Standl., sp. nov.—Frutex scandens, caulibus subteretibus, stramineis, glabratis, novellis gracillimis, dense retrorso-scaberulis; stipulae erectae, brevissime vaginantes, rotundatae, laciniato-denticulatae; petioli 2-4 mm. longi, puberuli; limbus lanceolato-oblongus, 2.5-4.5 cm. longus, 0.8-1.5 cm. latus, subabrupte acuminatus, basi obtusus, crassiusculus, supra viridis, ad costam puberulus, nervis obsoletis, subtus ochraceus, ad costam puberulus vel fere omnino glaber, costa gracili, prominula, nervis occultis, margine plana; flores umbellato-cymosi vel in axillis, fasciculati, cymis paucifloris, breviter pedunculatis, bracteis foliaceis, lanceolatis, usque ad 7 mm. longis, pedicellis validis, 1-5.3 mm. longis, dense

puberulis; hypanthium obovoideum, 1.5 mm. longum, basi acutiusculum, dense puberulum; calyx ad basin 4-partitus, laciniis triangularibus, 1.5 mm. longis, acutis, crassis, glabratis; corolla extus glabra, tubo crasso, cylindrico, 3-4.5 mm. longo, 1.5 mm. lato, lobis oblongo-ovatis, 2 mm. longis, obtusis, intus dense breviterque villosis.—Colombia: La Japa, Tolima, alt. 1,000-1,400 m., March, *F. C. Lehmann 7594* (Herb. Field Mus. No. 578,641, type).

Andrè K1092 (N. Y.) from Río del Cristal may represent the same species, but the specimen is so imperfect that its determination is uncertain. *M. echitidea* is related to *M. corticifer* Wernh., but that differs in its thicker, strongly revolute leaves and glabrous hypanthium.

Hillia Macbridei Standl., sp. nov.—Frutex epiphyticus glaber, ramis subteretibus vel obtuse tetragonis, fusco-brunneis vel ochraceis, minute papillosis, internodiis 1-2.3 cm. longis; stipulae caducae, lanceolatae vel lineari-lanceolatae, 1.5-2 cm. longae, versus apicem obtusum angustatae, tenuiter membranaceae; folia opposita, petiolo 3-5 longo, supra anguste sulcato; limbus lanceolatus, 2-3 cm. longus, 6-8 mm. latus, versus apicem obtusiusculum sensim angustatus, basi acutus, coriaceus, supra nitidus, costa impressa, nervis obsoletis, subtus opacus, albido-puncticulatus, costa valida, elevata, nervis obsoletis, margine revoluta; flores terminales, solitarii, sessiles; calyx ad apicem capsulae persistens, 5-partitus, lobis oblongo-ovatis, obtusis, 5 mm. longis, erectis; capsula anguste clavata, 5.5-6.5 cm. longa, medio 1 cm. lata, brunnea, inconspicue costata, versus basin longe sensimque angustata, versus apicem paullo angustata; semina numerosa, obovoidea, 1.5 mm. longa, basi abrupte filiformi-producta, apice coma e pilis c. 1.5 cm. longis cinnamomeis composita onusta.—Peru: La Merced, alt. 1,200 m., August-September, 1923, *J. Francis Macbride 5760* (Herb. Field Mus. No. 536,790, type). Chinchamayo Valley, Dept. Junín, alt. 1,500 m., *Schunke 436*.

By its small, narrow leaves this is easily distinguished from all the species of *Hillia* known from western South America.

Isertia Weberbaueri Standl., sp. nov.—Ramuli 8 mm. crassi, obtuse tetragoni, obscure tomentelli vel fere glabri; stipulae 7 mm. longae, fere ad basin bifidae, lobis obtusis, glabratae; folia opposita, petiolo crasso, 4.5-5 cm. longo, supra plano vel bisulcato, fere glabro; limbus ovalis vel late ellipticus, 19-28 cm. longus, 10-14 cm. latus, apice rotundatus et abrupte breviterque acuminatus, acumine triangulari, acutiusculo, c. 2 cm. longo, basi rotundatus vel acutus, plerumque abrupte breviterque decurrens, crasse membranaceus, supra viridis, glaber, nervis non elevatis, subtus albidus, densissime et minute nisi secus nervos albido-tomentosus, costa valida, elevata, nervis lateralibus utroque latere c. 24, elevatis, gracilibus, angulo lato vel fere recto divergentibus, fere rectis, juxta marginem conjunctis, nervulis prominulis, reticulatis; panicula sessilis, dense mul-

tiflora, c. 26 cm. longa et 9 cm. lata, ramulis compresso-angulatis, sparse puberulis, floribus sessilibus vel 1-4 mm. longe pedicellatis; bracteae latae, minutae, rotundatae vel obtusae; calyx hypanthio adjecto campanulatus, 5-6 mm. longus, glaber, obscure lobulatus, lobulis truncatis; corollae tubus 27 mm. longus, gracilis, teres, basi 2.5 mm. latus, superne sensim ampliatus, fauce 5 mm. latus, extus dense fulvo-puberulus, lobis ovalibus, 5-6 mm. longis, apice obtusis vel rotundatis, glabris, fauce dense barbato; antherae oblongae, acutae, 5 mm. longae, apicibus e corolla vix exsertis.—Peru: Valley of the Río Mixiollo, Prov. Pataz, Dept. Libertad, alt. 1,400 m., August, 1914, *A. Weberbauer 7054* (Herb. Field Mus. No. 548,998, type.)

Isertia Weberbaueri is related to *I. hypoleuca* Benth., but in the latter the calyx is larger and more conspicuously lobed, and the corolla is 5-8 cm. long.

Isertia parvifolia Standl., sp. nov.—Ramuli validi, 4-5 mm. crassi, obtuse tetragoni, striato-costati, dense puberuli, internodiis 1-2 cm. longis; stipulae 5-7 mm. longae, bipartitae, erectae, rigidae, persistentes, lobis oblongo-lanceolatis, subulato-attenuatis, puberulis; folia opposita, petiolo 2-2.5 cm. longo, gracili, supra plano, puberulo; limbus oblongus vel anguste elliptico-oblongus, 12-20 cm. longus, 4-6 cm. latus, longiacuminatus, acumine angusto, obtuso, basi acutus vel acuminatus, interdum abrupte contractus et decurrens, subcoriaceus, supra obscure viridis, lucidus, glaber vel ad costam paullo elevatam minute puberulus, nervis et nervulis subimpressis, subtus albidus, densissime et minute cinereo-tomentosus, costa valida, elevata, nervis lateralibus utroque latere c. 20, angulo lato adscendentibus, gracillimis, elevatis, fere rectis, juxta marginem arcuato-conjunctis, nervulis conspicuis, arcte reticulatis, margine revoluta; panicula sessilis vel breviter pedunculata, sublaxe pauci- vel multiflora, 5-7 cm. longa, c. 5 cm. lata, ramulis angulatis, dense griseo-puberulis; bracteae late triangulares, 1.5-2 mm. longae, acutae, persistentes, puberulae; flores sessiles vel 2-4 mm. longe pedicellati; calyx hypanthio adjecto 5-6 mm. longus, anguste campanulatus, brevissime lobulatus, lobulis late rotundatis, ciliolatis, glaber, basi obtusus; corollae tubus 22 mm. longus, basi 1.5 mm. latus, superne paullo ampliatus, fauce 3 mm. latus, griseo-puberulus, fauce dense villosus, lobis ovalibus, 6-7 mm. longis, obtusis, glabris; antherae lineares, 4.5 mm. longae, acuminatae, vix exsertae; stylus gracilis, glaber, tubo corollae aequilongus.—Peru: Chanchamayo Valley, Dept. Junín, alt. 1,500 m., April, 1924-27, *Carlos Schunke 393* (Herb. Field Mus. No. 571,447, type).

This species is a relative of *I. Weberbaueri*, but it differs conspicuously from that in the small narrow long-acuminate leaves and much-reduced inflorescence.

Gonzalagunia Killipii Standl., sp. nov.—Frutex, ramulis gracilibus, teretibus, ferrugineo-brunneis, novellis pilis brevibus griseis

dense strigosis, serius glabratis, internodiis elongatis; stipulae 5-6 mm. longae, erectae, persistentes, e basi triangulari lineari-caudatae, glabratae; petioli crassi, strigosi, 2-4 mm. longi; limbus ovatus vel oblongo-ovatus, 8.5-11 cm. longus, 4-5 cm. latus, longiacuminatus, basi rotundatus, subcoriaceus, supra laete viridis, scaberulus vel glabratus, sublucidus, arcte bullatus, nervis et nervulis profunde impressis, subtus densissime albido-tomentosus, ad nervos strigosus, costa et nervis gracilibus, elevatis, nervis lateralibus utroque latere c. 14, adscendentibus, arcuatis, marginem fere attingentibus, margine anguste revoluta; paniculae spiciformes, breviter pedunculatae, 15-28 cm. longae, florum fasciculis remotis, paucifloris, rhachi gracili, rigida, pilis brevibus rigidis adscendentibus dense induta, pedicellis usque ad 2 mm. longis vel fere nullis, strigillosis, bracteis linearibus, ad 3 mm. longis; hypanthium subglobosum, 1.5 mm. longum, dense strigillosum; calyx vix 1 mm. longus, glaber, breviter 4-dentatus, dentibus late triangularibus, acutiusculis; corolla alba, 5-6.5 mm. longa, extus sparse strigosa, tubo superne paullo dilatato, fauce 1.5 mm. lato; fructus albus, depresso-globosus, 5 mm. latus, fere glaber. —Colombia: La Gallera, Micay Valley, Cordillera Occidental, El Cauca, alt. 1,100-1,300 m., June 29-30, 1922, *Ellsworth P. Killip 7823* (U. S. Nat. Herb. No. 1,140,628, type; duplicate in herb. N. Y. Bot. Gard.).

In general apearance this resembles closely *G. dependens* R. & P., which grows in Colombia, but the latter is distinguished by the densely tomentose inflorescence.

Perhaps there should be referred here *Lehmann B.T.614*, without locality, but the specimen, although agreeing in pubescence, differs in its thin, not rugose, practically sessile leaves. The material available is not in good enough condition to make possible a definite decision.

Gonzalagunia discolor Standl., sp. nov.—Frutex, ramulis gracilibus, rigidis, teretibus, brunnescentibus, novellis strigosis vel scaberulis, internodiis brevibus vel elongatis; stipulae 3-4 mm. longae, persistentes, erectae, rigidae, e basi triangulari subulato-acuminatae, scaberulae; folia opposita, petiolo crassiusculo, 2.5-7 mm. longo, scaberulo vel strigilloso; limbus ovatus vel ovato-ellipticus, 1.5-3.3 cm. longus, 0.7-1.5 cm. latus, acutus vel abrupte breviterque acuminatus, acumine triangulari, obtuso, basi obtusus vel subrotundatus, subcoriaceus, supra viridis, sicco nigrescens, glaber, nervis subimpressis, subtus ochraceus, tantum ad nervos et costam strigillosus vel scaberulus vel fere glaber, costa et nervis crassis, elevatis vel planis, nervis lateralibus utroque latere 5-6, angulo acuto adscendentibus, arcuatis, prope marginem conjunctis; paniculae spiciformes, terminales, breviter pedunculatae, 1-3 cm. longae, paucifloraе, rhachi scaberula vel breviter hirtella, bracteis oblongis vel lanceolatis, 1-1.5 mm. longis; hypanthium subglobosum, scaberulum; calyx 4-lobatus, vix 1 mm. longus, lobis rotundato-ovatis, obtusis-

simis, subpatentibus, glabratis; fructus 4-coccus, purpureo-ruber, 3.5 mm. latus, glabratus.—Colombia: La Gallera, Micay Valley, Cordillera Occidental, Dept. El Cauca, alt. 2,000-2,200 m., July 1, 1922, *Ellsworth P. Killip 7959* (U. S. Nat. Herb. No. 1,140,961, type; duplicate in herb. N. Y. Bot. Gard.).

This species is well marked by the small, thick, nearly glabrous leaves, conspicuously paler beneath, with few coarse lateral nerves, and by the reduced inflorescence.

Gonzalagunia flexuosa Standl., sp. nov.—Arbor, ramulis gracillimis, teretibus, ferrugineo-brunneis, dense strigosis vel serius glabratis, internodiis elongatis; stipulae anguste triangulares, 7-8 mm. longae, subulato-attenuatae, brunneae, extus strigosae, persistentes; folia opposita, petiolo 10-13 mm. longo, dense strigoso; limbus ovato-oblongus vel anguste ovatus, 10.5-15.5 cm. longus, 4-6 cm. latus, abrupte longiacuminatus, acumine angusto, falcato, membranaceus, supra viridis, pilis brevibus sparse strigosus vel glabratis, costa et nervis prominulis, subtus paullo pallidior, griseus, pilis gracillimis alibidis patentibus pilosus, ad nervos strigosus, costa et nervis gracillimis, prominulis, nervis lateralibus utroque latere c. 10, angulo acuto adscendentibus, arcuatis; paniculae terminales, pedunculatae, 22-50 cm. longae, c. 2 cm. latae, florum fasciculis paucifloris, remotis, rhachi gracili, flexuosa, dense strigosa, pedicellis gracilibus, plerumque 3-7 mm. longis, strigosis, bracteis lineari-filiformibus, pedicellis aequilongis vel brevioribus; hypanthium subglobosum, 1.5 mm. longum, setuloso-strigosum; calyx fere ad basin 4-fidus, lobis inaequalibus, 1-2 mm. longis, patentibus, oblongo-linearibus, basi dilatatis, obtusis, glabratis; corolla alba, 6-8 mm. longa, sparse strigosa, tubo 1 mm. crasso, fauce paullo ampliato; fructus immaturus 4-coccus, 2.5 mm. diam., dense strigosus.—Colombia: La Gallera, Micay Valley, Dept. El Cauca, alt. 1,400-1,500 m., June 29-30, 1922, *Ellsworth P. Killip 7696* (U. S. Nat. Herb. No. 1,140,621, type).—Ecuador: Valley of Pastaza River, between Baños and Cashurco, Prov. Tungurahua, alt. 1,300-1,800 m., September 25, 1923, *A. S. Hitchcock 21,803* (Herb. N. Y. Bot. Gard.).

Evidently related to *G. rudis* Standl., of Panama and Colombia, but that species differs in its shorter corolla, nearly sessile leaves, and very short pedicels. The Ecuador specimen differs from the type in having shorter petioles and a slightly larger corolla, but otherwise it seems to agree in all essential characters.

Gonzalagunia Whitei (Rusby) Standl., comb. nov. *Duggena Whitei* Rusby, Mem. N. Y. Bot. Gard. 7: 371. 1927.

Gonzalagunia asperula (Wernh.) Standl., comb. nov. *Gonzalea asperula* Wernh. Journ. Bot. 51: 219. 1913.

Gonzalagunia cornifolia (HBK.) Standl., comb. nov. *Gonzalea cornifolia* HBK. Nov. Gen. & Sp. 3: 416. 1819.

Coccocypselum pleuropodum (Donn. Smith) Standl., comb. nov. *Geophila pleuropoda* Donn. Smith, Bot. Gaz. 52: 50. 1911. *Tontanea pleuropoda* Standl. N. Amer. Fl. 32: 148. 1921.

Coccocypselum hispidulum Standl., comb. nov. *Tontanea hispidula* Standl. N. Amer. Fl. 32: 147. 1921.

Hoffmannia verticillata (Ruiz & Pav.) Standl., comb. nov. *Ohigginsia verticillata* Ruiz & Pav. Fl. Peruv. 1: 55. *pl. 85, f. a.* 1798. *Higginsia verticillata* Pers. Syn. Pl. 1: 133. 1805.

Hoffmannia obovata (Ruiz & Pav.) Standl., comb. nov. *Ohigginsia obovata* Ruiz & Pav. Fl. Peruv. 1: 55. *pl. 85, f. b.* 1798. *Higginsia obovata* Pers. Syn. Pl. 1: 133. 1805.

Hoffmannia triosteoides Standl., sp. nov.—Frutex 0.6-1.8 m. altus, interdum debilis, ramis saepe elongatis, crassis, obtuse tetragonis, griseis vel ochraceis, novellis dense villosis, internodiis brevibus vel elongatis; stipulae deciduae; folia opposita, petiolo 0.5-3.5 cm. longo, interdum fere ad basin marginato, villoso; limbus ellipticus, elliptico-obovatus, vel rarius oblongo-obovatus, 5-19 cm. longus, 2.5-6.5 cm. latus, abrupte acuminatus, acumine angusto, obtuso, interdum acutus, basi abrupte acuminatus et plerumque longe decurrens, rarius sensim attenuatus, membranaceus, supra viridis, sparse pilis longis patentibus villosus, minute albido-puncticulatus, subtus pallidior, undique sed ad nervos densius pilis pallide ferrugineis villosus, costa valida, paullo elevata, nervis lateralibus utroque latere c. 9, angulo lato vel acuto divergentibus, arcuatis, gracilibus, juxta marginem conjunctis; cymae subsessiles, dense pauci- vel multiflorae, in axillis solitariae vel fasciculatae, petiolis breviores, pedicellis ad 2 mm. longis; calycis lobi lineares, 1.5-2(-6) mm. longi, villosuli; corolla alba, in alabastro acutiuscula, extus sparse villosa, tubo 1.8 mm. longo, superne dilatato, lobis lanceolato-oblongis, 6 mm. longis, ad apicem attenuatis; bacca rubra, ovalis, 5-7 mm. longa, 4-6 mm. lata, sparse villosa; semina numerosissima, minuta, profunde foveolata.—Colombia: Western slope of Peña Blanca, near Charta, Dept. Santander, in dense woods, alt. 2,500 m., *E. P. Killip and Albert C. Smith 19,265* (U. S. Nat. Herb. No. 1,354,542, type). Charta, alt. 2,000-2,600 m., *Killip and Smith 19,314, 17,449, 19,015*. Southern slope of Mt. San Martín, near Charta, alt. 2,300-2,500 m., *Killip and Smith 19,147, 19,141*. Between Piedecuesta and Las Vegas, Santander, alt. 2,000-2,500 m., *Killip and Smith 21,141*. Loso, Norte de Santander, alt. 2,200-2,400 m., *Killip and Smith 20,434*. California, Santander, alt. 2,200 m., *Killip and Smith 17,092*. Río Suratá Valley, above Suratá, Santander, alt. 2,000-2,300 m., *Killip and Smith 16,597*. (Specimens all in U. S. Nat. Herb.).

This species, so well illustrated by such ample and well-prepared material, which is remarkably uniform, is distinguished by the copious villous pubescence, compact inflorescences, and long narrow calyx lobes.

Hoffmannia pauciflora Standl., sp. nov.—Frutex gracilis 1-2.5 m. altus, ramulis gracilibus, teretibus, brunneis vel fuscis, glabris, novellis praesertim ad nodos villosulis vel puberulis, internodiis 1.5-4.5 cm. longis; stipulae caducae; folia opposita, petiolo gracili, 0.8-5.5 cm. longo, sparse ferrugineo-puberulo vel glabrato; limbus oblongo-ellipticus, elliptico-obovatus, vel oblanceolato-oblongus, 8-13.5 cm. longus, 3.5-5.5 cm. latus, abrupte breviterque acuminatus, acumine anguste triangulari, acutiusculo, basi abrupte vel sensim acuminatus et plus minusve decurrens, membranaceus, supra viridis, glaber, rhaphidibus brevibus pallidis satis dense conspersus, nervis inconspicuis, subtus pallidior, ad nervos sparse et minute villosulus, costa crassiuscula, paullo elevata, nervis lateralibus utroque latere c. 10, gracilibus, angulo lato divergentibus, valde arcuatis, prope marginem conjunctis; cymae axillares, solitariae vel fasciculatae, 3–7-florae, umbelliformes, 5-15 mm. longe pedunculatae, petiolis breviores, pedicellis gracilibus, 2-7 mm. longis, glabris vel obscure villosulis; hypanthium oblongum, 2-3 mm. longum, basi acutiusculum, glabrum; calyx vix 1 mm. longus, lobis late triangularibus, acutiusculis, ciliolatis; corolla albescens, in alabastro acutiuscula, glabra vel pilis paucis brevissimis induta, tubo 2 mm. longo, lobis oblongis, 4-4.5 mm. longis, acutiusculis, intus tomentellis; antherae subexsertae, 3 mm. longae, acutae; bacca oblonga, 4-7 mm. longa, 3 mm. lata, glabra.—Colombia: In damp forest, usually near water, near Valparaíso, region of Santa Marta, alt. 1,050-1,500 m., March 3, 1898-99, *H. H. Smith 1814* (Herb. Field Mus. No. 138,663, type; duplicate in herb. N. Y. Bot. Gard.). Without locality, *Moritz 843* (U. S. Nat. Herb.).

Hoffmannia asperula Standl., sp. nov.—Frutex, ramulis gracilibus, subteretibus, glabratis, novellis minute et sparse villosulis, internodiis 2-5.5 cm. longis; stipulae caducae; folia opposita, petiolo gracili, 1.5-2 cm. longo, minute villosulo vel puberulo; limbus oblongo-oblanceolatus, 15-21 cm. longus, 5-6 cm. latus, longiacuminatus, basin versus longe sensimque attenuatus, crassus, supra viridis, glaber, nervis inconspicuis, subtus pallidior, undique asperulo-puberulus, ad nervos villosulo-tomentellus, costa crassa, elevata, nervis lateralibus utroque latere c. 11, angulo lato divergentibus, gracilibus, elevatis, valde arcuatis, prope marginem conjunctis; cymae axillares, fasciculatae, dense pauci- vel multiflorae, 4-8 mm. longe pedunculatae, petiolis breviores, pedicellis usque ad 2 mm. longis, puberulis; hypanthium turbinatum, 2 mm. longum, scaberulum; calyx 1 mm. longus, lobis triangularibus, acutiusculis, minutissime puberulis, erectis; corolla rubro-lutea, extus sparse puberula, in alabastro oblonga, obtusa, tubo 3 mm. longo, superne paullo ampliato, lobis

oblongis, obtusis, 2 mm. longis, intus glabris; antherae oblongae, mucronatae, 3 mm. longae.—Colombia: San Antonio, above Cali, Dept. El Cauca, alt. 1,900 m., December, 1905, *H. Pittier 767* (U. S. Nat. Herb. No. 530,958, type).

Easily recognized by the fine rough pubescence of the under surface of the leaves. Apparently conspecific is *Toro 1137* (herb. N. Y. Bot. Gard.) from Dauro, near Medellín. In this the corolla is slightly larger and the inflorescence longer and more lax.

Hoffmannia dichroantha Standl., sp. nov.—Frutex, ramulis gracilibus, subteretibus, glabris, novellis bifariam ferrugineo-puberulis, internodiis 0.5-3 cm. longis; stipulae caducae, triangulares, acutae, puberulae, 1.5 mm. longae; folia opposita, petiolo gracili, 4-8 mm. longo, minute ferrugineo-puberulo; limbus oblongo-lanceolatus vel oblongo-oblanceolatus, 6-9.5 cm. longus, 1.5-2.5 cm. latus, longe acuminatus, acumine angusto, saepe falcato, obtuso, basin versus sensim angustatus vel abrupte acuminatus, longe decurrens, membranaceus, supra viridis, rhaphidibus pallidis brevissimis sparse conspersus, nervis inconspicuis, subtus pallidior, ad nervos minute adpresso-puberulus, undique dense pallido-puncticulatus, costa et nervis gracilibus, prominulis, nervis lateralibus utroque latere c. 8, angulo lato adscendentibus, valde arcuatis, juxta marginem conjunctis; cymae in axillis solitariae vel fasciculatae, laxe pauciflorae, subsessiles vel usque ad 4 mm. longe pedunculatae, pedicellis 1-2 mm. longis, minute puberulis; calyx vix 1 mm. longus, lobis ovato-triangularibus, obtusis, ciliolatis; corolla rubra, lobis ad apicem luteis, extus glabra, in alabastro acuta, 3 mm. longa.—Colombia: In forest below Cascada Chorrón, south of Antizales, Dept. Bolívar, alt. 1,700-2,000 m., February 25, 1918, *Francis W. Pennell 4418* (Herb. N. Y. Bot. Gard., type).

From *H. asperula* this differs in its small leaves, small corolla, and acute buds.

Hoffmannia glabra Standl., sp. nov.—Frutex 1-1.5 m. altus, ramis crassis, teretibus, glabris, viridibus, internodiis plerumque elongatis; stipulae triangulares, acutae, 2 mm. longae, deciduae; folia opposita, petiolo gracili, 1-4.5 cm. longo, glabro; limbus ellipticus vel oblongo-ellipticus, 8-19 cm. longus, 3.5-8 cm. latus, sensim vel abrupte longiacuminatus, acumine angusto, saepe falcato, longi-attenuato, basi acutus vel abrupte acuminatus, plus minusve decurrens, membranaceus, glaber, saepe utrinque rhaphidibus minutis albidis dense conspersus, supra viridis, nervis inconspicuis, subtus pallidior, costa crassiuscula, prominente, nervis lateralibus utroque latere 9-12, angulo lato adscendentibus, valde arcuatis, gracilibus, juxta marginem conjunctis; cymae in axillis solitariae vel fasciculatae, dense multiflorae, petiolo aequilongae vel breviores, sessiles vel usque ad 2.5 cm. longe pedunculatae, pedicellis 1-5 mm. longis, minute et sparse puberulis vel glabris; hypanthium 2-2.5 mm.

longum, turbinatum vel oblongum, basi acutum vel obtusum, glabrum; calyx 1 mm. longus, lobis triangularibus, acutis, erectis, plerumque ciliolatis; corolla pallide lutea, glabra, in alabastro obtusa, tubo 4 mm. longo, supra paullo ampliato, lobis oblongis vel ovalibus, 3 mm. longis, obtusis; antherae semiexsertae, obtusae; bacca oblonga, 8 mm. longa, 3-5 mm. lata, basi obtusa, glabra, nigra vel vinacea, 4-locularis; semina numerosissima, minuta, brunnea, foveolata.—Colombia: Valley of Charta, Santander, alt. 2,000 m., February 1-11, 1927, *E. P. Killip and Albert C. Smith 19,034* (U. S. Nat. Herb. No. 1,354,339, type). Charta, alt. 2,600 m., *Killip and Smith 19,005* (U. S.). Loso, Norte de Santander, alt. 2,200-2,400 m., *Killip and Smith 20,405* (U. S.). Southern slope of Mt. San Martín, Santander, alt. 2,300-2,500 m., *Killip and Smith 19,139* (U. S.). Above Fusagasugá, Cundinamarca, alt. 1,800-2,300 m., *Pennell 2707* (N. Y.).

Among the Colombian species this plant is easy to detect because of the fact that it is almost wholly glabrous.

Hoffmannia Killipii Standl., sp. nov.—Arbor, ramulis teretibus, usque ad 1.5 cm. crassis, fuscis, glabris; folia opposita, petiolo 5.5-8.5 cm. longo, crassiusculo, glabro; limbus ellipticus, c. 25 cm. longus et 10-12 cm. latus, basi acutus, crasse membranaceus, glaber, supra viridis, nervis inconspicuis, subtus pallidior, minute pallido-puncticulatus, costa crassa, elevata, nervis lateralibus utroque latere c. 13, angulo fere recto divergentibus, arcuatis, juxta marginem conjunctis, nervulis conspicuis; cymae in axillis vel ad nodos defoliatos solitariae vel fasciculatae, laxe multiflorae, petiolis aequilongae vel breviores, 2-3.5 cm. longae, pedunculatae, pedunculo gracili, glabro, pedicellis gracilibus, 6-8 mm. longis; calyx 0.7 mm. longus, brevissime lobatus, lobulis late rotundatis; bacca globoso-ovalis, 4-5 mm. longa, 4 mm. lata, basi rotundata vel obtusa, glabra, 2-locularis.—Colombia: Dense forest, Río Santa Rita, Salento, Dept. Caldas, alt. 1,600-1,800 m., July 29, 1922, *Ellsworth P. Killip and Tracy E. Hazen 8986* (Herb. N. Y. Bot. Gard., type).

Near *H. glabra*, but distinguished by the large lax inflorescence, long pedicels, and small fruit.

Hoffmannia coronata Standl., sp. nov.—Rami graciles, subteretes, novellis dense pilis ferrugineis adpressis pilosis, internodiis 1.5-5.5 cm. longis; stipulae late triangulares, obtusae, puberulae, 1-1.5 mm. longae, deciduae; folia opposita, petiolis gracilibus, 5-9 mm. longis, dense ferrugineo-puberulis; limbus oblongo-ellipticus vel oblongo-obovatus, 6-9 cm. longus, 2-3.5 cm. latus, abrupte acuminatus vel longiacuminatus, acumine saepe falcato, acuto, basin versus longe sensimque attenuatus, membranaceus, supra viridis, glaber, rhaphidibus minutis pallidis conspersus, nervis inconspicuis, subtus pallidior, undique sparse, ad nervos dense, pilis minutis incurvo-puberulus, costa gracili, elevata, nervis lateralibus utroque latere c. 9,

gracilibus, angulo lato adscendentibus, arcuatis, prope marginem conjunctis; cymae axillares, solitariae, 2–3-florae, 1.7-4 cm. longe pedunculatae, pedunculo gracili, dense incurvo-puberulo, pedicellis 1-2.5 mm. longis, hypanthium oblongum, 2.5 mm. longum, dense puberulum vel pilosulum, basi obtusum; calycis lobi lineares, ciliati, subaequales, 2-3 mm. longi; corolla in alabastro oblongo-ovoidea, acuta, sparse villosula, tubo 1 mm. longo, lobis ovato-oblongis, 5 mm. longis, acutis; antherae exsertae, lineari-oblongae, obtusae, 2.2 mm. longae; bacca ovalis, 6 mm. longa, 4 mm. lata, basi obtusa vel rotundata, sparse puberula; semina numerosa, minuta, brunnea, foveolata.—Colombia: Tamesis, vicinity of Medellín, February 1, 1928, *Rafael A. Toro 974* (Herb. N. Y. Bot. Gard., type).

In its general aspect and narrow calyx lobes this plant suggests *H. triosteoides*, but that species differs in its villous pubescence and dense congested inflorescence.

Hoffmannia vesciculifera Standl., sp. nov.—Suffruticosa, suberecta, simplex, caule c. 10 cm. alto, 4 mm. crasso, tereti, dense pilis longis patentibus brunnescentibus multicellularibus villoso, apice dense foliato, internodiis brevibus; stipulae caducae; petioli in parte inferiore nuda 7-11 mm. longi, crassi, dense longivillosi, in parte superiore vesiculiferi, vesiculo inflato, basin limbi attingente, 1-2.3 cm. longo, 5-8 mm. lato, apice paullo supra insertionem utrinque producto, lobis rotundatis, basi obtuso vel paullo angustato, viridi, dense villoso; limbus obovato-ellipticus vel ovali-ellipticus, 9-16.5 cm. longus, 5-8 cm. latus, apice breviter acuminatus vel subrotundatus et brevissime latiacuminatus, acumine acuto, basi obtusus vel rotundatus, membranaceus, supra viridis, sparse pilis longis villosus, nervis inconspicuis, subtus pallidior, ad nervos dense pilis longis mollibus multicellularibus fulvis villosus, costa crassa, elevata, nervis lateralibus utroque latere c. 10, crassiusculis, angulo acuto adscendentibus, arcuatis, percurrentibus, nervulis prominulis, reticulatis; flores cymosi, cymis axillaribus, longipedunculatis, cum pedunculo 4-7 cm. longis, laxe multifloris, dense longivillosis, pedunculo gracili, 1.5-3.5 cm. longis, ramulis secundifloris, pedicellis 4-7 mm. longis; hypanthium obovoideum, 2.5 mm. longum, villosum; calyx 4-partitus, pilis longis patentibus multicellularibus villosus; bacca rubra, obovoideo-globosa, 5 mm. longa, dense villosa; semina numerosa, globoso-obovoidea, 0.4 mm. longa, pallide brunnea, foveolata.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 750 m., 1928, *G. P. Cooper 231* (Herb. Field Mus. No. 579,284, type), *225*.

The material of this plant available for study is not as ample or in as good condition as one would wish, but the habit and fruit characters indicate that it is closer to *Hoffmannia* than to any other American genus of Rubiaceae. The inflated vescicles of the petioles, closely resembling those of certain melastomes, are unique. It is probable that flowers, when they are available, will supply characters

to justify the separation of this remarkable plant as a distinct generic type, but the incompleteness of the present material does not warrant such a treatment on the sole basis of the vescicles.

Schradera exotica (Gmel.) Standl., comb. nov. *Urceolaria exotica* Gmel. Syst. Nat. 2: 390. 1791. *S. capitata* Vahl, Eclog. 1: 35. 1796.

Schradera acuminata Standl., sp. nov.—Arbor omnino glabra, ramulis crassis, obtuse tetragonis, rimosis, ochraceis, internodiis 1-5.5 cm. longis, nodis incrassatis; stipulae deciduae, non visae; folia opposita, petiolo crasso, 9-13 mm. longo; limbus ellipticus vel ovali-ellipticus, 6.5-8.5 cm. longus, 2.7-4 cm. latus, apice abrupte breviterque acuminatus, acumine c. 5 mm. longo, triangulari, obtuso, basi obtusus vel subrotundatus et plerumque abrupte breviterque contractus, opacus, subcoriaceus, supra viridis, nervis non elevatis, inconspicuis, subtus brunnescens, costa valida, elevata, nervis lateralibus utroque latere c. 12, angulo acuto adscendentibus, fere rectis, gracillimis, prominulis, prope marginem nervum collectivum iregularem efformantibus, margine plana; flores capitati, capitibus terminalibus, solitariis, c. 4-floris, pedunculo 5 mm. longo, 4 mm. crasso, involucro campanulato, 1-7 cm. longo, c. 2 cm. lato, breviter et inaequaliter lobato; hypanthium 5 mm. longum et 7 mm. latum; calyx late tubulosus, 7 mm. longus, limbo brevissime et irregulariter lobato; semina (immatura) orbicularia, compressa, 1-1.2 mm. lata.—Colombia: In forest, La Cumbre, Cordillera Occidental, Dept. El Valle, alt. 1,800-2,000 m., May 7-10, 1922, *F. W. Pennell 5146* (U. S. Nat. Herb. No. 1,140,563, type).

A relative of *S. exotica* (Gmel.) Standl., of the West Indies, but that species differs in its obtuse or rounded leaves, long peduncles, and shorter involucre.

Schradera cacuminis Standl., sp. nov.—Arbor glabra, ramulis 5-6 mm. crassis, subteretibus, ochraceis, internodiis 2-3 cm. longis, nodis incrassatis; folia opposita, petiolo crassiusculo, 6-15 mm. longo, basi incrassato; stipulae non visae; limbus anguste elliptico-oblongus, 8.5-10.5 cm. longus, 2.5-3.5 cm. latus, sensim vel abrupte longiacuminatus, acumine acutiusculo, basi acutus, coriaceus, sublucidus, supra viridis, costa non elevata, nervis obscuris, subtus fusco-brunnescens, costa gracili, elevata, nervis lateralibus utroque latere c. 14, angulo acuto adscendentibus, fere rectis, prope marginem nervum collectivum irregularem efformantibus, margine anguste revoluta; flores capitati, capitibus terminalibus, solitariis, c. 8-floris, pedunculo c. 1 cm. longo et 5 mm. crasso, involucro cyathiformi, 1.8 cm. longo, 2.5 cm. lato, breviter irregulariterque lobato; hypanthium 5 mm. longum et latum, calyce tubuloso, 9 mm. longo, superne 7 mm. lato, truncato vel obscure lobato; corolla alba, tubo 10-12 mm. longo, fauce 2.5 mm. lato, intus villoso, lobis 5, obovato-oblongis, 5 mm. longis; antherae lineares, 4.5 mm. longae.—Colombia: Bushy sum-

mit of west peak, La Cumbre, Cordillera Occidental, Dept. El Valle, alt. 2,100-2,400 m., September, 1922, *Ellsworth P. Killip 11369* (U. S. Nat. Herb. No. 1,140,710, type).

From *S. acuminata*, of the same region, this differs in the narrow, long-acuminate leaves, acute at base, and in the long peduncles.

Schradera revoluta Standl., sp. nov.—Arbor glabra, ramulis 3-5 mm. crassis, obtuse tetragonis, ochraceis, internodiis 7-18 mm. longis, nodis incrassatis; stipulae late ovatae, 8 mm. longae, obtusae, basi connatae, brunneae, caducae; folia opposita, petiolo crasso, 3-5 mm. longo; limbus lanceolato-oblongus vel anguste elliptico-oblongus, 4-6.5 cm. longus, 1.3-2.2 cm. latus, apicem versus paullo angustatus, obtusus vel acutiusculus, basi obtusus, crasse coriaceus, supra viridis, lucidus, costa non elevata, nervis obsoletis subtus fusco-brunnescens, costa gracili, prominente, nervis lateralibus utroque latere c. 10, obscuris, angulo acuto adscendentibus, margine valde revoluta; flores capitati, capitibus terminalibus, solitariis, c. 5-floris, pedunculo 3-5 mm. longo et crasso, involucro late cyathiformi, 7-8 mm. longo, 1.5-2 cm. lato, integro vel irregulariter breviterque lobato; hypanthium 5 mm. longum et latum, calyce late tubuloso, 6 mm. longo, integro vel breviter fisso; corolla alba, tubo 1 cm. longo, superne sensim ampliato, fauce 4 mm. lato, intus glabro, lobis 5, oblongis, 7 mm. longis, acutiusculis; antherae lineares, 4 mm. longae; stylus 10 mm. longus, crassiusculus, glaber, lobis oblongis, 2 mm. longis.—Colombia: In forest, La Gallera, Micay Valley, Dept. El Cauca, alt. 2,200-2,500 m., July 1, 1922, *Ellsworth P. Killip 7971* (U. S. Nat. Herb. No. 1,140,635, type).

From both the other new species here described this is distinguished by its small, narrow, short-petiolate leaves with strongly revolute margins. From *S. cacuminis* it differs also in the short peduncles and involucres, and in the glabrous corolla tube.

Alibertia Steinbachii Standl., sp. nov.—Frutex 2–3-metralis, ramulis gracilibus, teretibus, ochraceis, rimosis, novellis compressiusculis, minute puberulis, internodiis 1-4 cm. longis; stipulae triangulares, acutae, 2 mm. longae, erectae, persistentes; folia opposita, petiolis gracilibus, 3-5 mm. longis, supra late sulcatis vel planis, puberulis; limbus ellipticus, late ellipticus vel oblongo-obovatus, 2.5-4.5 cm. longus, 1.3-3 cm. latus, apice abrupte breviterque acuminatus, acumine obtuso, rarius obtusus, basi acutus vel obtusus, membranaceus, supra viridis, glaber, costa et nervis gracilibus, prominentibus, nervulis interdum prominulis et reticulatis, subtus pallidior, ad costam puberulus atque sparse et brevissime barbatus, costa et nervis prominentibus, nervis lateralibus utroque latere 6-7, angulo lato abeuntibus, inaequalibus, prope marginem laxe conjunctis, nervulis reticulatis; inflorescentia masculina terminalis, 2-3 mm. longe pedunculata, floribus 3-7, capitatis, sessilibus; calyx late campanulatus, 1 mm. longus, minute puberulus, truncatus, dentibus

obsoletis; corolla extus minutissime puberula, tubo viridi, 7-8 mm. longo, superne angustato, fauce contracto, recto vel paullo curvato, intus glabro, lobis 4, albis, glabris, late ovatis, 2.5-3 mm. longis, patentibus, acutis vel abrupte breviterque acuminatis; stamina prope basin tubi inserta, filamentis 1 mm. longis, glabris, antheris linearibus, 3 mm. longis; discus crassus, a tubo calycino liber; bacca 1 cm. diam., nigra.—Bolivia: Forests of the campos region, Buenavista, Prov. Sara, Dept. Santa Cruz, alt. 450 m., October 9, 1924, *José Steinbach 6597* (Herb. Field Mus. No. 573,427, type).

Vernacular name, "nigua." Fruit sweet, edible.

Related, according to description, to *A. myrciifolia* Schum., of Brazil. That species differs in its oblong coriaceous leaves and longer anthers.

Randia concinna Standl., sp. nov.—Arbor, ramis 3-7 mm. crassis, subteretibus, rimosis, cinnamomeis vel griseis, ad apices foliatis, novellis glabris, internodiis 5-10 mm. longis; stipulae foliaceae, deciduae, ovales vel ovato-ovales, 1-2.5 cm. longae, 9-16 mm. latae, apice rotundatae, virides, glabrae vel prope basin sparse setulosae; folia opposita, petiolis validis, 1-2.2 cm. longis, supra sulcatis, sparse hispidulis vel glabratis; limbus ovato-ovalis vel late ovato-ellipticus, 6.5-12.5 cm. longus, 4-7.5 cm. latus, acutiusculus, basi rotundatus, membranaceus, supra viridis, glaber, nervis subimpressis, subtus paullo pallidior, ad axillas sparse albido-barbatus, costa elevata, valida, nervis lateralibus utroque latere c. 8, adscendentibus, fere rectis, remote a margine laxe conjunctis; fructus globosus, 3 cm. diam., laevis, nitidus, 4-locularis; semina numerosa, compressa, pallide brunnea, 6 mm. lata.—Mexico: Along stream bed, San Sebastián, Hacienda del Ototal, Sierra Madre Occidental, Jalisco, alt. 1,500 m., February 15, 1927, *Ynes Mexia 1690* (Herb Field Mus. No. 579,911, type). Duplicate in U. S. Nat. Herb.

"Limoncillo." Said to be a large tree.

Only sections of the fruit are available for study. The true generic position of the tree will be problematical until the flowers are collected. The large broad stipules are scarcely to be expected in the genus *Randia*, but at present no better generic disposition suggests itself.

Randia panamensis Standl., sp. nov.—Ramuli graciles, 1.5-2.5 mm. crassi, teretes, recti, cinnamomei, puberuli, lanticellis sparsis pallidis paullo elevatis notati, ad axillas interdum spinosi, spinis gracilibus, rigidis, adscendentibus, 5-7 mm. longis, internodiis elongatis; stipulae lanceolatae, subulato-acuminatae, 5-8 mm. longae, erectae, brunneae, multinerviae; folia ad apices ramorum congesta, petiolis gracilibus, 3-6 mm. longis, strigillosis; limbus obovato-oblongus vel oblanceolato-oblongus, 4.5-12.5 cm. longus, 2-4.5 cm. latus, subabrupte breviterque acuminatus, acumine obtuso vel acuto, basi

acutus vel acuminatus, membranaceus, supra viridis, glaber, nervis saepe subimpressis, subtus paullo pallidior, ad nervos strigosus, in axillis breviter barbatus, costa gracili, elevata, nervis lateralibus utroque latere c. 10, angulo acuto adscendentibus, fere rectis, remote a margine conjunctis; flores pauci, terminales, fasciculati, pedicellis 5-6 mm. longis, griseo-strigosis; calyx partitus, lobis 5, linearisubulatis, 5-7 mm. longis, trinerviis, adpresso-ciliatis; corolla ochroleuca, tubo 2 cm. longo, basi 1.5 mm. lato, fauce 3 mm. lato, dense griseo-strigilloso, lobis ovalibus vel rotundatis, 5-6 mm. longis, apice rotundatis, extus sparse et minute strigillosis, intus glabris; apices antherarum paullo exserti.—Panama: Flat Rock, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 213* (Herb. Field Mus. No. 579,675, type).

Probably related to *R. armata* (Swartz) DC., but in that common species of tropical America the corolla tube is larger and the spines are longer.

Guettarda boliviana Standl., sp. nov.—Rami crassi, teretes, lenticellati, fusco-brunnei, novellis pilis brevibus patentibus dense pilosis, internodiis elongatis; stipulae lineari-lanceolatae, 6-8 mm. longae, deciduae, extus strigosae; folia opposita, petiolo gracili, 1.5-2.5 cm. longo, dense hirtello; limbus oblongo-ellipticus vel late ellipticus, 5.5-13 cm. longus, 2.5-7.5 cm. latus, apice acutus vel plerumque abrupte acuminatus, acumine acuto, membranaceus, supra viridis, sparse pilis brevibus adpressis pilosus vel cito glabratus, nervis prominulis, subtus pallidior, ubique pilis brevibus adpressis vel ad nervos patentibus pilosus, costa gracili, elevata, nervis lateralibus utroque latere c. 9, angulo acuto adscendentibus, gracilibus, elevatis, leviter curvatis, juxta marginem conjunctis; cymae densae, multiflorae, 2-4 cm latae, 4-11 cm longe pedunculatae, pedunculo valido, densissime breviterque piloso, ramulis primariis ad 1.5 cm. longis, bracteis lanceolatis vel linearibus, sericeis; hypanthium 2 mm. longum, basi rotundatum, adpresso-pilosulum; calyx tubulosus, 1.5-2 mm. longus, truncatus vel obsolete et brevissime lobatus, adpresse pilosulus; corolla dense cinereo-sericea, tubo 19 mm. longo, superne sensim dilatato, ore 3 mm. lato, lobis 5, ovali-oblongis, 6 mm. longis, apice obtusis vel rotundatis, intus secus costam adpresso-pilosis; antherae lineares, inclusae, 3 mm. longae; stylus gracilis, inferne pilosus, superne glaber.—Bolivia: Cercado, Prov. Sara, Dept. Santa Cruz, alt. 400 m., November 27, 1925, *José Steinbach 7351* (Herb. Field Mus. No. 573,532, type). Buena Vista, Prov. Sara, alt. 450 m., *Steinbach 7355*.

In general appearance this plant suggests the original plate of the Peruvian *G. aromatica* Poepp. & Endl., but that species has a shorter corolla. The Bolivian specimens were distributed as *G. Burchelliana* Muell., of Brazil, but in that, as described, the lateral nerves of the leaves are divergent at a wide angle, and the petioles are only 4-6 mm. long.

Guettarda Rusbyi Standl., sp. nov.—Arbor ramulis crassis, fusco-brunneis, teretibus, novellis strigillosis, internodiis 6-12 mm. longis; stipulae late ovatae, 3 mm. longae, deciduae, extus strigosae; folia opposita, petiolo gracili, 3-8 mm. longo, supra late sulcato, sparse puberulo et strigilloso; limbus ovato-ellipticus, ovali-ellipticus, ellipticus, vel interdum oblongo-ellipticus, 5-12.5 cm. longus, 2-5 cm. latus, abrupte vel sensim acuminatus, acumine triangulari, attenuato, basi rotundatus vel obtusus, crasse membranaceus, supra viridis, scaberulus vel glabratus, nervis prominulis, subtus fere concolor, ad nervos strigillosus vel rarius puberulus, costa gracili, elevata, nervis lateralibus utroque latere c. 6, angulo acuto adscendentibus, leviter curvis, prope marginem conjunctis; cymae axillares, dense pauciflorae, 5-6 cm. longe pedunculatae, pedunculo gracili, dense griseo-puberulo, ramulis primariis 3 mm. longitudine non superantibus, floribus sessilibus; corollae tubus gracilis, 10-13 mm. longus, 1-1.5 mm. crassus, pilis adscendentibus albidis dense sericeus, lobis ovalibus, 2.5-3 mm. longis, extus sericeis, intus glabris vel ad basin villosulis; drupa ovalis, 7-12 mm. longa, 4-6 mm. crassa, basi et apice rotundata, minute et densissime tomentosa, 4-locularis; calyx ad apicem drupae persistens, tubulosus, 1.5-2 mm. longus, tomentellus, truncatus vel obscure lobatus.—Colombia: Rocky hill at gorge above Natagaima, Dept. Huila, alt. 450-500 m., August 12, 1917, *H. H. Rusby and F. W. Pennell 1154* (Herb. Field Mus. No. 485,881, type; duplicates in U. S. Nat. Herb. and herb. N. Y. Bot. Gard.). Along stream, Espinal to Cuamo, Tolima, alt. 400 m., *Pennell and Rusby 200* (N. Y.). Piedras, alt. 600 m., *André 1940* (N. Y.), *1898* (N. Y.). Without locality, *Funck and Schlim 644* (N. Y.); *Lehmann 8677* (N. Y.). Above Honda, *Holton 409* (N. Y.).

The specimens cited exhibit considerable variation in shape of leaves and in pubescence, and it is possible that more than one species is represented, although I have been unable to find characters by which they may be separated satisfactorily. *Guettarda Rusbyi* is related to *G. odorata* Jacq., differing in its much larger, oval rather than globose fruit, and slightly larger calyx and hypanthium.

Guettarda malacophylla Standl., sp. nov.—Rami teretes, crassi, fusci, novellis subcompressis, densissime pilis fulvis brevibus patentibus pilosis, internodiis brevibus; stipulae triangulares, acuminatae, fusco-brunneae, extus strigosae, caducae; folia opposita, petiolo crasso, 1.5-4 mm. longo, dense piloso; limbus ovalis, obovato-ovalis, vel obovato-ellipticus, 3.5-6 cm. longus, 1.7-3.3 cm. latus, subabrupte breviterque acuminatus vel obtusus, acumine acuto, basi obtusus vel late rotundatus, crasse membranaceus, supra viridis, dense molliterque brevipilosus, nervis prominulis, subtus griseus, densissime pilis brevibus, patentibus velutino-pilosus, costa et nervis gracilibus, elevatis, nervis lateralibus utroque latere c. 10, angulo acuto adscendentibus, leviter arcuatis, prope marginem laxe conjunctis; flores cymoso-capitati, cymis densis, paucifloris, ad 4 mm. longe peduncu-

latis, pedunculo crasso, floribus sessilibus, bracteis lanceolatis, calycem aequantibus vel brevioribus; hypanthium subglobosum teres, 1.2 mm. longum, dense tomentosum; calyx tubulosus, 1.7 mm. longus, minute puberulus, truncatus vel obscure bilobatus; corolla extus dense cinereo-sericea, pilis adscendentibus, tubo gracili, 7-8 mm. longo, 1 mm. lato, lobis ovali-oblongis, 2.5 mm. longis; ovarium 4-loculare.—Colombia: On Río Magdalena, Neiva and Timana, alt. 400-1,200 m., "November," *F. C. Lehmann 8710* (Herb. N. Y. Bot. Gard., type).

Among the Colombian species this may be recognized readily by the small, densely pubescent leaves and small, headlike, nearly sessile inflorescence.

Guettarda sabiceoides Standl., sp. nov—Ramuli graciles, teretes, fusco-brunnei, glabrati, novellis strigosis et puberulis, internodiis 1-4.5 cm. longis; stipulae late ellipticae vel obovatae, 1.5 cm. longae, abrupte acuminatae, deciduae, fusco-brunneae, extus sparse, prope basin densius, strigosae; petioli graciles, 2-3 cm. longi, sparse strigillosi et puberuli vel glabrati; limbus oblongo-ellipticus vel ovato-ellipticus, 10-15.5 cm. longus, 4-7 cm. latus, abrupte acuminatus, membranaceus, supra viridis, glaber, nervis non elevatis, subtus pallide viridis, ad nervos et nervulos minute sericeus, costa et nervis gracilibus, prominentibus, nervis lateralibus utroque latere c. 15, adscendentibus, arcuatis; inflorescentiae axillares, furcatae, 6-10 mm. longe pedunculatae, pedunculo scaberulo-puberulo, ramis 1-2 cm. longis, dense multifloris, floribus secundis, sessilibus; hypanthium calyce adjecto 1.5-2 mm. longum, pentagonum, minute griseo-tomentosum et hirtellum; calyx breviter 5-dentatus, dentibus late triangularibus, acutiusculis; corolla in alabastro 6-7 mm. longa, tubo crasso, pilis brevibus fulvis reflexis dense obtecto; drupa (immatura?) ovalis, 5 mm. longa, profunde 5-sulcata, minute tomentosa, putamine 5-loculari.—Colombia: Forests of the Río Palacé, highlands of Popayán, alt. 1,500-1,800 m., February, 1886, *F. C. Lehmann B. T. 960* (Herb. N. Y. Bot. Gard., type). Without locality *Lehmann B. T. 860* (N. Y.).

Guettarda sabiceoides is related to the West Indian *G. crispiflora* Vahl, differing from that in its narrower leaves, smaller flowers, and 5-celled ovary. This is probably the plant reported from Bogotá by Kunth (HBK. Nov. Gen. & Sp. 3: 420. 1819) as *G. crispiflora*.

Guettarda ocoteaefolia Standl., sp. nov.—Ramuli crassiusculi, subteretes, fusco-brunnei, novellis strigillosis, internodiis 0.5-2.5 cm. longis; stipulae late ovato-triangulares, subulato-cuspidatae, 6.5 mm. longae, fusco-brunneae, tenues, extus dense strigillosae, deciduae; folia opposita, petiolo gracili, 0.5-2 cm. longo, supra sulcato, puberulo et strigilloso; limbus oblanceolato-oblongus vel oblongo-obovatus, 7.5-18 cm. longus, 3-9.5 cm. latus, apice obtusus vel fere rotundatus et abrupte breviterque acuminatus, interdum acutus, acumine tri-

angulari, acuto, 3-5 mm. longo, basin versus angustatus, basi ipsa acuta vel obtusa et plus minusve inaequali, interdum rotundata, crasse membranaceus, supra viridis, minute scaberulus vel glabratus, subnitidus, nervis prominulis, subtus paullo pallidior, sparse et minute strigillosus vel glabratus, ad nervos puberulus, costa gracili, elevata, nervis lateralibus utroque latere c. 9, angulo acuto valde adscendentibus, gracillimis, prominentibus, juxta marginem conjunctis; cymae densae, pauciflorae, axillares, 3-4.3 cm. longe pedunculatae, pedunculo crasso, densissime pilis brevibus ochraceis patentibus piloso, ramulis primariis 4 mm. longitudine non superantibus, floribus sessilibus, bracteis lanceolatis, ad 4 mm. longis, deciduis; hypanthium 2 mm. longum, tomentosum; calyx 3 mm. longus, late tubulosus, truncatus vel brevissime lobatus, pilis brevibus adscendentibus fulvescentibus indutus; corolla extus dense pilis adscendentibus cinereo-sericea, tubo 1.5 mm. longo, fere 3 mm. lato, superne vix dilatato, lobis 5, ovalibus, 5-6 mm. longis, intus glabris, patentibus; antherae subexsertae.—Colombia: Near Panche, alt. 1,550 m., February 18, 1876, *E. André 1670* (Herb. Field Mus. No. 537,218, type; duplicate in herb. N. Y. Bot. Gard.). Fusagasugá, alt. 1,800 m., *André 1448* (N. Y.).

From *G. Rusbyi* this species differs in the larger, proportionately narrower leaves of different shape, and in the stout, densely pubescent peduncles.

Anisomeris rauwolfioides Standl., sp. nov.—Arbor parva 4 m. alta, ramulis gracilibus, teretibus, rimosis, griseis vel ochraceis, novellis adpresso-pilosulis vel puberulis, internodiis 1-3 cm. longis; stipulae late triangulares, persistentes, erectae, 3 mm. longae, subulato-caudatae, brunneae; petioli 2-3 mm. longi, supra late sulcati, ciliati; limbus ellipticus vel oblongo-ellipticus, 3.5-5.5 cm. longus, 1.7-2.7 cm. latus, apice acutus, obtusus, vel interdum rotundatus, basi obtusus vel acutus, membranaceus, supra obscure viridis, glaber, costa paullo elevata, nervis inconspicuis, subtus pallidior, in axillis nervorum lateralium barbatus, costa gracili, elevata, nervis lateralibus utroque latere 5-6, gracillimis, inconspicuis, fere rectis, angulo acuto adscendentibus, remote a margine laxe conjunctis; flores cymoso-capitati, cymis 3–5-floris, 13-20 mm. longe pedunculatis, pedunculo filiformi, glabro, floribus sessilibus, bracteis minutis; hypanthium oblongum, 1.5 mm. longum, glabrum; calyx 1.5 mm. longus, profunde lobatus, glaber, lobis ovato-oblongis, obtusis, erectis; corolla alba, extus dense pilulis adpressis adscendentibus albidis obtecta, tubo 10-12 mm. longo, gracili, superne paullo dilatato, medio fere 1 mm. lato, lobis 4, ovalibus, 2-2.5 mm. longis, apice obtusis vel rotundatis, intus glabris; apices antherarum subexsertae.—Bolivia: Edge of forest, Río Palometillas, Prov. Sara, Dept. Santa Cruz, alt. 400 m., December 19, 1924, *José Steinbach 6768* (Herb. Field Mus. No. 563,841, type).

Vernacular name, "espino blanco." In spite of the native name, there is no evidence that the branchlets ever are spinose.

Anisomeris rauwolfioides is a relative of *A. albicaulis* (Rusby) Standl., the latter differing in its pubescent leaves (described incorrectly as glabrous) and pubescent calyx.

Anisomeris apodantha Standl., sp. nov.—Rami crassi, teretes, ochracei, lenticellati, internodiis 4-7 cm. longis; stipulae deciduae, non visae; petioli graciles, 1-2.3 cm. longi, supra profunde et anguste sulcati, dense strigillosae; limbus (perfectus non visus) ellipticus, 12-15 cm. longus vel longior, ad 6 cm. latus, basi subabrupte acutus, membranaceus, supra viridis, glaber, nervis non elevatis, subtus paullo pallidior, ubique sed ad nervos densius pilis brevissimis strigillosus, costa gracili, elevata, nervis lateralibus utroque latere c. 10, gracillimis, elevatis, angulo acuto adscendentibus, arcuatis, marginem fere attingentibus, nervulis obsoletis; flores in axillis et ad nodos ramorum defoliatos congesti, inflorescentiis densis, multifloris, sessilibus, floribus sessilibus; hypanthium oblongum, 2 mm. longum, cinereo-strigosum; calyx tubulosus, 2.5-3 mm. longus, strigosus, profunde lobatus, lobis lineari-lanceolatis, attenuatis, erectis; corolla in alabastro anguste linearis, superne vix dilatata, dense pilis adpressis adscendentibus cinereis obtecta, tubo fere filiformi, 17-20 mm. longo, medio vix 1 mm. lato, lobis 4, lineari-lanceolatis, acutis, versus apicem longe sensimque attenuatis, intus glabris, 4-5 mm. longis; antherae inclusae; stylus filiformis, glaber.—Bolivia: Río Surutú, Prov. Sara, Dept. Santa Cruz, alt. 400 m., October 20, 1925, *José Steinbach 7263* (Herb. Field Mus. No. 573,478, type).

Somewhat resembling *A. boliviana* (Standl.) Rusby, but differing conspicuously in the large leaves, dense sessile many-flowered inflorescences, and long corolla tube.

Anisomeris albicaulis (Rusby) Standl., comb. nov. *Guettarda albicaulis* Rusby, Mem. Torrey Club 6: 47. 1896.

Anisomeris brachypoda (Donn. Smith) Standl., comb. nov. *Chomelia brachypoda* Donn. Smith, Bot. Gaz. 47: 255. 1909.

Anisomeris Pringlei (Wats.) Standl., comb. nov. *Chomelia Pringlei* Wats. Proc. Amer. Acad. 26: 137. 1891.

Anisomeris microloba (Donn. Smith) Standl., comb. nov. *Chomelia microloba* Donn. Smith, Bot. Gaz. 31: 114. 1901.

Anisomeris protracta (Bartl.) Standl., comb. nov. *Guettarda protracta* Bartl.; DC. Prodr. 4: 457. 1830.

Anisomeris paniculata (Bartl.) Standl., comb. nov. *Guettarda paniculata* Bartl.; DC. Prodr. 3: 457. 1830. *Stenostomum paniculatum* Poepp. & Endl. Nov. Gen. & Sp. 3: 27. *pl. 232, f. a-e.* 1845.

The type was collected in the mountains of Peru by Haenke. The writer would refer here *Matthews 1944* (Herb. N. Y. Bot. Gard.) from Peru, an *Anisomeris* which agrees well with the original description and with the amplified description and the figure given by Poeppig and Endlicher.

Coussarea euryphylla Standl., sp. nov.—Frutex, ramulis gracilibus, sparse pilis albidis nitidulis sericeis, internodiis elongatis; stipulae deciduae, interpetiolares, lineari-lanceolatae, 13 mm. longae, basi 4 mm. latae, erectae, longiattenuatae, extus dense griseo-sericeae; folia opposita, petiolo valido, 3-4 cm. longo, supra canaliculato, sparse vel basin versus magis dense sericeo, limbo elliptico, 27-35 cm. longo, 12-15.5 cm. lato, apice obtuso vel subrotundato et abrupte caudato-acuminato, acumine e basi triangulari lineari, c. 3 cm. longo, basi acuto vel abrupte acuminato et decurrente, membranaceo, supra viridi, sparse vel ad nervos densius pilis longis tenuissimis sericeo vel glabrato, nervis non elevatis, subtus paullo pallidiore, sparse pilis longis adpressis piloso vel glabrato, costa gracili, elevata, nervis lateralibus utroque latere c. 13, angulo lato divergentibus, arcuatis, juxta marginem laxe conjunctis, gracilibus, elevatis, nervulis prominentibus, laxe reticulatis; flores paniculati, panicula terminali, 10 cm. longa, 8 cm. lata, laxe multiflora, pedunculata, pedunculo 2.5 cm. longo, pedicellis gracilibus, 6-12 mm. longis, sericeis; bracteae primariae stipuliformes, lanceolatae vel lineares, 2-6 mm. longae; hypanthium subglobosum, 1.5 mm. longum, breviter et sparse pilosulum; calyx 1.5 mm. longus, sparse adpresso-pilosulus, truncatus, remote 5-denticulatus; corolla alba, extus minutissime puberula, tubo 11 mm. longo, 1 mm. crasso, lobis 5, linearibus, 6 mm. longis, 0.8 mm. latis, ad apicem acutum attenuatis, recurvatis; stamina inclusa.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 228* (Herb. Field Mus. No. 579,282, type), *585a*.

A low shrub with fragrant flowers. Because of the absence of fruits, the generic position of the plant is somewhat uncertain.

Faramea bullata Standl., sp. nov.—Arbor parva 4.5 m. alta, omnino glabra, trunco 5 cm. diam., ramulis validis, compressiusculis, viridibus, laevibus, internodiis 5-5.5 cm. longis; stipulae intrapetiolares, basi breviter connatae, 7-10 mm. longae, crassae, persistentes, parte libera late ovata, cuspidato-acuminata; folia opposita, petiolo crasso, 6-8 mm. longo, supra late sulcato, limbo oblongo vel anguste oblongo, 15-21 cm. longo, 5.5-7 cm. lato, subabrupte acuminato, acumine c. 2 cm. longo, obtuso, basi breviter cordato vel rarius rotundato, subcoriaceo, supra viridi, nitidulo, bullato, costa elevata, nervis conspicuis, subtus glaucescente, pruinoso, triplinervio, costa valida, elevata, nervis submarginalibus gracilibus, e margine 5-6 mm. distantibus, nervis lateralibus utroque latere c. 17, angulo lato divergentibus, elevatis, fere rectis, nervulis

prominentibus, laxe reticulatis; flores cymoso-paniculati, paniculis c. 5 cm. longis et 6 cm. latis, dense multifloris, pedunculatis, pedunculo crasso, 3 cm. longo, pedicellis crassis, 1-6 mm. longis; hypanthium oblongum; calyx 1 mm. longus, 1.5 mm. latus, 5-lobus, lobis triangularibus, acuminatis; corolla caerulea, in alabastro 9 mm. longa, tubo gracili, 4.5 mm. longo, 1.2 mm. crasso; fructus depresso-globosus, 10-14 mm. latus, 7 mm. longus, 8 mm. crassus, basi rotundatus et abrupte contractus, apice truncatus, laevis; semen griseum, basi profunde et anguste exsculptum, laeve, c. 1 cm. longum.—Panama: Kankintoe, 10 miles above Holstein, region of Almirante, Province of Bocas del Toro, 1928, *G. P. Cooper 507* (Herb. Field Mus. No. 579,385, type).

The species is well distinguished by the long narrow triplinerved bullate leaves. Between the principal submarginal nerves and the margin there is a very slender nerve, close to the margin, and the leaves, therefore, are perhaps to be regarded rather as quintuplinerved.

Cephaelis sessilifolia Standl., sp. nov.—Frutex glaber, ramulis gracilibus, viridibus, subteretibus, laevibus, internodiis 1.5-7 cm. longis; stipulae bipartitae, erectae, persistentes, lobis lineari-subulatis, rigidis, viridibus; folia sessilia, obovato-elliptica vel rarius oblongo-elliptica, 5.5-9.5 cm. longa, 2-5.5 cm. lata, apice obtusa vel fere rotundata et abrupte breviterque acuminata, acumine 3-5 mm. longo, acutiusculo, rarius acuminata, basin versus plerumque paullo angustata, basi ipsa acuta vel rotundata, membranacea, supra nitida, laete viridis, nervis paullo elevatis, subtus pallidior, costa et nervis gracilibus, elevatis, nervis lateralibus utroque latere c. 10, angulo lato adscendentibus, valde arcuatis, juxta marginem conjunctis; flores capitati, capitibus terminalibus, densis, pauciflorís, speciose bracteatis, pedunculo gracili, erecto, 7-15 mm. longo; bracteae exteriores late ovatae, 1.5 cm. longae, 1 cm. latae, acutae, interioribus angustioribus; drupa coerulea, pyrenis 6 mm. longis, 4 mm. latis, dorso crasse corrugatis, facie ventrali longitrorsum sulcatis.—Mexico: On canyon wall, Quimixto, trail from San Pedro el Tuito, Jalisco, alt. 60 m., December 2, 1926, *Ynes Mexia 1240* (Herb. Field Mus. No. 579,912, type).

A spreading shrub. Fruit bright blue. Bracts dark red.

Of the three species of *Cephaelis* known previously from Mexico only one, *C. chiapensis* Standl.. has sessile leaves. In that species the leaves are narrower and long-acuminate, and the bracts are green.

Cephaelis guapilensis Standl., comb. nov. *Evea guapilensis* Standl. Journ. Washington Acad. Sci. 15: 104. 1925.

Cephaelis chiapensis Standl., comb. nov. *Evea chiapensis* Standl. Contr. U. S. Nat. Herb. 23: 1392. 1926.

Cephaelis campyloneuroides Standl., comb. nov. *Evea campyloneuroides* Standl. Contr. U. S. Nat. Herb. 18: 123. 1916.

Cephaelis dichroa Standl., comb. nov. *Evea dichroa* Standl. Contr. U. S. Nat. Herb. 18: 124. 1916.

Psychotria Mexiae Standl., sp. nov.—Arbor parva, ramulis crassiusculis, subteretibus, vetustioribus ochraceis, rimosis, novellis glabris, internodiis 6-14 mm. longis; stipulae intrapetiolares, oblongo-ovatae, 17 mm. longae, longiacuminatae, tenues, brunneae, caducae, glabrae; folia opposita, petiolis 6-12 mm. longis, crassis, saepe fere ad basin marginatis; limbus elliptico-oblongus vel obovato-oblongus, 8.5-16.5 cm. longus, 2.5-7 cm. latus, abrupte acuminatus vel longi-acuminatus, acumine e basi triangulari attenuato, obtuso, recto vel subfalcato, basi abrupte attenuatus et longe decurrens, crasse membranaceus, utrinque glaber, supra viridis, costa paullo elevata, nervis vix prominulis, subtus paullo pallidior, costa et nervis gracilibus, elevatis, nervis lateralibus utroque latere 10-11, angulo lato divergentibus, leviter arcuatis, prope marginem laxe conjunctis, nervulis obscuris; flores cymoso-paniculati, paniculis terminalibus, sessilibus, e basi ramosis, sublaxe multifloris, 4-7 cm. longis, ramulis sparse puberulis, pedicellis 1-2 mm. longis vel nullis; calyx ad apicem drupae persistens, 0.5 mm. longitudine vix superans, remote et brevissime denticulatus; drupa globosa, 3-4 mm. diam., glabra, obtuse multicostata, pyrenis facie ventrali fere planis.—Mexico: Wooded ravine on mountain side, Santa Cruz de Vallarta, Jalisco, alt. 700 m., December 9, 1926, *Ynes Mexia 1262* (Herb. Field Mus. No. 579,924, type).

A small understory tree. Flowers (not present on the specimens) white. Fruit at first green, turning orange and finally red.

Like so many Psychotrias, this plant has no outstanding differential characters, but it differs in some important detail from each of the species known from Mexico.

Psychotria Cooperi Standl., sp. nov.—Arbor 7.5-9 m. alta, trunco 10-12.5 cm. diam., ramulis gracilibus, subteretibus, viridibus, glabris, internodiis 1.5-3.5 cm. longis; stipulae interpetiolares, suborbiculares, 4-6 mm. longae, apice late rotundatae, crassae, glabrae, persistentes; petioli graciles, 13-17 mm. longi, glabri; limbus oblanceolato-oblongus, 9-16 cm. longus, 3-6 cm. latus, abrupte acuminatus, acumine acuto, c. 1 cm. longo, basi acutus vel acuminatus, membranaceus, supra viridis, ad costam sparse pilosulus, costa elevata, nervis lateralibus conspicuis sed non elevatis, subtus paullo pallidior, ad nervos pilis paucis albis adscendentibus pilosulus, costa gracili, elevata, nervis lateralibus utroque latere c. 12, angulo lato adscendentibus, arcuatis, juxta marginem conjunctis; flores cymoso-corymbosi, inflorescentiis terminalibus, densissime multifloris, sessilibus,

2-3 cm. longis, pedicellis validis, 2-6 mm. longis, superne paullo incrassatis, glabris; calyx vix 1 mm. longus, glaber, 5-lobatus, lobis inaequalibus, triangularibus, acutis, erectis, in apice fructus conniventibus; corolla alba, extus glabra, 5 mm. longa, fauce barbata, tubo superne paullo dilatato; drupa purpurea, clavato-obovoidea, 4-5 mm. longa, basi obtusa, apice truncata, 2-pyrena, pyrenis dorso 5-costatis.—Panama: Buena Vista Camp on Chiriquí Trail, alt. 375 m., 1928, *G. P. Cooper 577*; Yale No. 12,210 (Herb. Field Mus. No. 579,633, type). Cricamola Valley, region of Almirante, Province of Bocas del Toro, *Cooper 540*.

"Cocobolito."

The species is marked by the very dense, sessile inflorescences which often appear to be axillary because of the growth of branches which appear on each side of them.

Didymaea linearis Standl., sp. nov.—Herba perennis e basi lignosa, dense ramosa, c. 60 cm. longa, ramulis pallidis, obtuse quadrangulatis, 2 mm. crassis, novellis minute et sparsissime scaberulis vel fere glabris, dense foliatis; folia opposita, sessilia, linearia, 5-17 mm. longa, 0.8-1.5 mm. lata, cuspidato-apiculata, basi paullo angustata, rigidula, 1-nervia, supra viridia, sparse scaberula, subtus paullo pallidiora, glabra; stipulae fere 1 mm. longae, bifidae, lobis subulato-filiformibus, recurvatis; flores ad apices ramulorum solitarii, pedicello 7 mm. longo, angulato, superne paullo incrassato; fructus didymus, carnosus, glaber, nitidus, laevis, inter coccos constrictus, 7-8 mm. latus, 5 mm. altus.—Mexico: Real Alto, Peña Gorda, Sierra Madre Occidental, Jalisco, alt. 2,500 m., February 21, 1927, *Ynes Mexia 1726* (Herb. Field Mus. No. 579,896, type).

"Esculcona." A vine, pendent from crevices of rocks.

Of the genus *Didymaea* there has been known heretofore only a single species, *D. mexicana* Hook. f., ranging from south-central Mexico to Costa Rica. This Jalisco plant adds an interesting second species to the genus. *D. mexicana* differs conspicuously in aspect from *D. linearis* because of its large, lanceolate to ovate leaves.

Relbunium glaberrimum Standl., sp. nov.—Herba ramosa omnino glabra, caulibus gracilibus, obtuse tetragonis, lucidis, internodiis elongatis, foliis longioribus; folia quaterna, sessilia, ovalia vel ovato-elliptica, 5-8 mm. longa, 2.5-4.5 mm. lata, apice obtusa vel brevissime acuminata, basi rotundata vel obtusa, coriacea, lucida, in siccitate nigrescentia, 1-nervia, margine valde revoluta; pedicelli axillares, solitarii, foliis aequilongi vel breviores, crassiusculi, tetragoni, erecti; involucri bracteae aequales, 1.5-3 mm. longae, ovatae vel ellipticae, breviter acuminatae, eciliatae, crassae; ovarium glabrum; corolla brevissima, glabra.—Venezuela: Exposed dry ridge, Cerro de Turumiquire, alt. 1,800 m., 1925, *G. H. H. Tate 310*

(U. S. Nat. Herb. No. 1,230,935, type); alt. 2,925 m., *Tate 238* (U. S.).

From all the South American species of *Relbunium* this is distinguished by the complete absence of pubescence. Otherwise it resembles *R. nitidum* (HBK.) Schum.

Galium pumilio Standl., sp. nov.—Herba perennis humillima compacta, dense ramosa, caulibus gracillimis, 2.5-4 cm. longis, glabris; folia 4- vel 6-natim verticillata, plerumque imbricata et internodiis longiora, sessilia, oblonga vel ovata, 1.5-2.5 mm. longa, 0.7-1.2 mm. lata, obtusa vel acutiuscula, piloso-apiculata, basi obtusa, crassa, plana vel subrevoluta, glabra, ciliata; flores axillares, solitarii, pedicellis crassiusculis, 4-8 mm. longis, glabris, erectis; fructus carnosus, didymus, glaber, c. 1 mm. longus et 1.3 mm. latus.—Peru: On western grassy limestone slope, Cerro de Pasco, alt. 4,200 m., March 28, 1923, *J. Francis Macbride 3070* (Herb. Field Mus. No. 534,140, type).

In its reduced size and minute ciliate leaves this plant is unlike any of the other *Galium* species of western South America.

Galium limense Standl., sp. nov.—Herba perennis diffusa procumbens, caulibus gracilibus, obtuse tetragonis, viridibus, sparse uncinulatis, internodiis foliis aequilongis vel multo longioribus; folia quaterna, oblongo-ovata, 5-8 mm. longa, 1.5-3 mm. lata, sessilia, acuminata, basi obtusa, crassiuscula, 3-nervia, supra hirtello-scaberula, subtus glabra, margine plana vel recurva; flores parvi, inconspicui, in cymis plerumque trifloris axillaribus et terminalibus dispositi, pedicellis gracilibus, erectis vel dependentibus, glabris; ovarium dense albido-pilosum, 1.4 mm. latum; corolla subrotata, viridis, 1.5 mm. longa, profunde in lacinias 3 oblongo-ovatas acutas divisa, glabra; fructus siccus, 2.5 mm. latus, 1.5 mm. longus, dense breviterque uncinulato-hispidulus.—Peru: Open rocky slope, Canta, Dept. Lima, alt. 2,700-2,900 m., June 11-19, 1925, *Francis W. Pennell 14,351* (Herb. Field Mus. No. 558,431, type).

This is a relative of *G. canescens* HBK., but from that and other related species it may be separated easily by the glabrous under surface of the leaves.

CUCURBITACEAE

Anguria Dunlapii Standl., sp. nov.—Tota glabra, caulibus gracilibus, 1.5 mm. crassis, sulcatis, internodiis 4.5-6 cm. longis; folia simplicia, petiolo gracili, 1.2-2 cm. longo; lamina late ovato-oblonga, 10-11 cm. longa, 4-5 cm. lata, apice obtusa vel acutiuscula et breviter cuspidato-apiculata, acumine angusto, attenuato, c. 3 mm. longo, basi brevissime cordata, membranacea, integra, supra viridis, subtus paullo pallidior, basi 5-nervia, costa crassiuscula, plana, nervis lateralibus inaequalibus, planis, gracilibus, angulo recto vel lato

divergentibus, remote a margine conjunctis; flores masculi capitati, pedunculo gracili, 10.5-15 cm. longo, apice paucifloro, floribus sessilibus; receptaculum cylindricum, 8 mm. longum, 2 mm. latum, basi obtusum, superne paullo constrictum, striatum, intus parte superiore sparse pilosum; sepala suberecta, crassa, ovata, 1.5 mm. longa, obtusa; petala 1.5 mm. longa, suborbicularia, brevissime unguiculata; antherae rectae, oblongae, fere 4 mm. longae, 1 mm. latae, inappendiculatae.—Panama: Farm Six, Changuinola Valley, March 3, 1924, *V. C. Dunlap 490* (Herb. Field Mus. No. 580,000, type).

Related to *A. longipedunculata* Cogn., which is reported from Mexico and Costa Rica, but that species differs in its longer receptacle, larger petals, and much longer anthers.

COMPOSITAE

Dyssodia ciliosa (Rydb.) Standl., comb. nov. *Boebera ciliosa* Rydb. N. Amer. Fl. 34: 167. 1915.

STUDIES OF AMERICAN PLANTS—II

PAUL C. STANDLEY

The present paper consists almost wholly of descriptions of new species of trees and shrubs from tropical America. About half of the plants described as new belong to the family Rubiaceae, and represent a partial result of the writer's recent studies in this group, preparatory to a monographic treatment of the Rubiaceae native in western South America.

Most of the plants of other families described here are from Honduras, and were collected by the writer during a visit to the northern coast of that country in the winter of 1927-28. The flora of the lowlands of Honduras does not appear to be so interesting or so varied as that of Costa Rica or Panama, but in view of the fact that scarcely any botanical collecting had been done there previously, it was to be expected that a substantial number of new species would appear in the collection..

MORACEAE

Ficus Popenoei, sp. nov.—Arbor mediocris, ramulis crassis densissime brunneo- vel ferrugineo-hirsutis, internodiis brevibus; stipulae deciduae, 18 mm. longae, tenues, brunneae, extus dense pilis fulvis adpresso-hirsutae, subulato-attenuatae; folia breviter petiolata, petiolo 0.8-2.3 cm. longo dense hirsuto valido; lamina crasse membranacea vel fere subcoriacea, ovalis vel ovali-obovata, 7-21 cm. longa, 4-7.5 cm. lata, apice late rotundata, interdum obscure apiculata, basin versus paullo angustata, basi ipsa cordata vel late rotundata, supra viridis, dense hispidula vel glabrata, costa et nervis plus minusve prominentibus, subtus vix pallidior, ubique dense pilis brevibus patentibus velutino-pilosula, costa crassa elevata, nervis lateralibus utroque latere c. 12, prominentibus, gracilibus, fere rectis, angulo acuto adscendentibus, prope marginem arcuato-conjunctis, nervulis prominentibus arcte reticulatis; pedunculi gemini 4 mm. longi dense pilosi; involucrum bilobum, lobis 2 mm. longis rotundatis extus adpresso-pilosis; receptaculum oblongo-obovoideum, 1.5-2 cm. longum, 1 cm. latum, apice late rotundatum, basi obtusum, ubique densissme fulvo-hirsutum, ostiolo paullo elevato minuto.—Honduras: In wet forest on the hills above Lancetilla Valley, near Tela, Dept.

Atlántida, alt. 200 m., December 8, 1927, *Paul C. Standley 52688* (Herb. Field Mus. No. 582,763, type). Also *No. 54442* (sterile) from the same locality.

From all the species of *Ficus* known from Central America this is easily separated by the shape of the fruit and its dense spreading pubescence.

Cecropia hondurensis, sp. nov.—Arbor 4.5-15-metralis pauciramosa, cortice albido; folia longe petiolata, peltata, petiolo 20-30 cm. longo, dense breviterque hirsuto vel hirtello, subtereti, striato; lamina 30-50 cm lata et ultra, membranacea, ad medium c. 8-loba, lobis late oblongis vel ovalibus, apice rotundatis vel obtuisis, sinubus angustis separatis, supra viridis, pilulis albidis hispidula, subtus minute arachnoideo-pilosa, albida, ad nervulos dense hispidula; inflorescentia mascula ante anthesin bractea 8.5 cm. longa apice acuminata scabra et hispidula inclusa, pedunculo 11 cm. longo gracili striato sparse puberulo, spicis numerosis umbellatis 5-7 cm. longis et 3 mm. crassis 1 cm. longe pedunculatis; inflorescentiae femineae 8-9 cm. longe pedunculatae, pedunculo breviter hirtello, spicis fere sessilibus, 3-4 mm. tantum longe pedunculatis, crassis, paucis, 8-10 cm. longis, fere 1 cm. latis, griseo-viridibus.—Honduras: In wet thicket near Tela, Dept. Atlántida, at sea level, January 13, 1928, *Paul C. Standley 54528* (Herb. Field Mus. No. 583,440, type). Lancetilla Valley near Tela, *Standley 56637*

"Guarumo." It is rather futile to describe new species of *Cecropia* when so little is known about those already described, but this common tree of the Lancetilla region does not agree with any of the species known from Central America. This Honduran form is related to *C. longipes* Pittier, of Panama, but in that the pistillate spikes are borne on peduncles 1-1.5 cm. long. More ample material of the Cecropias is badly needed in our herbaria. When it has been assembled, probably the number of species will be greatly increased. I have avoided making specimens of them myself for the same reasons as other collectors—because it is difficult to obtain fertile material, and the innumerable ants which infest the trees make the work of obtaining the material extremely disagreeable.

Trophis chorizantha, sp. nov.—Arbor 9-metralis, ramulis gracilibus subteretibus pallide cinnamomeis sparse et minute puberulis vel glabratis, vetustioribus lenticellatis; stipulae parvae subulatae c. 1.5 mm. longae deciduae; folia alterna, breviter petiolata, petiolo gracili subtereti 5-7 mm. longo sparse puberulo vel glabrato supra anguste et profunde sulcato; lamina crasse papyracea, oblonga vel obovato-oblonga, 9-15 cm. longa, 3.5-5 cm. lata, abrupte cuspidato-acuminata, acumine 1-2 cm. longo attenuato acuto, basi acuta vel subobtusa, utrinque glabra, supra viridis, costa nervisque non

elevatis, nervulis prominulis, subtus pallidior, laevis, costa gracili elevata, nervis lateralibus utroque latere c. 8, gracilibus, elevatis, angulo lato divergentibus, subarcuatis, inaequalibus, remote a margine laxe conjunctis, nervulis prominulis et arcte reticulatis; spicae femineae 1 cm. longe pedunculatae, 7.5 cm. longae, rhachi subflexuosa, dense puberula, remote pauciflora, floribus sessilibus, solitariis; perianthium urceolatum 2 mm. longum dense adpresso-pilosulum; styli 3-3.5 mm. longi graciles densissime minuteque albido-pilosuli; fructus globosus 5-6 mm. longus sparse minuteque pilosulus.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 600 m., March 13, 1928, *Paul C. Standley 56771* (Herb. Field Mus. No. 581,798, type).

A near relative of *T. racemosa* (L.) Urban, but that species is distinguished easily by its very rough leaves and dense fruiting spikes.

POLYGONACEAE

Coccoloba hirsuta, sp. nov.—Ramuli teretes crassi dense hirsuti; ocreae 1-1.5 cm. longae subadpressae truncatae hirsutae; petioli crassi, 4-8 cm. longi, dense fulvo-hirsuti; lamina oblongo-ovalis vel elliptico-obovata, 39-52 cm. longa, 17-28 cm. lata, apice abrupte breviterque acuminata, acumine obtuso, basi rotundata vel breviter cordata, subcoriacea vel pergamentacea, supra viridis, subdense hirsuta, nervis prominulis, subtus pallidior, praesertim ad nervos dense fulvo-hirsuta, costa valida elevata, nervis lateralibus utroque latere c. 11, angulo acuto adscendentibus, fere rectis, prominentibus, prope marginem conjunctis, nervulis prominulis laxe reticulatis.—Honduras: Lancetilla Valley near Tela, Dept. Atlántida, alt. about 400 m., January 20, 1928, *Paul C. Standley 54802* (Herb. Field Mus. No. 583,474, type). Also *No. 52823* from the same locality.

Although obviously it is not desirable to base new species upon sterile material, the present plant is so different from all the other Coccolobas known from Central America that it is evidently a well-marked species. It is easily recognizable by the copious long pubescence of the leaves.

Coccoloba anisophylla, sp. nov.—Arbor 3-6-metralis, ramulis gracilibus teretibus, griseis vel ochraceis, plus minusve rugulosis, novellis dense et minute ferrugineo-puberulis; ocreae truncatae persistentes, 3-5 mm. longae, ferrugineo-puberulae; folia fere sessilia, petiolo 2-6 mm. longo puberulo; lamina oblongo-obovata, 13-30 cm. longa, 5.5-13 cm. lata, crasse membranacea, subabrupte acuminata, acumine angusto attenuato saepe falcato, basin versus angustata, basi solemniter inaequali, latere exteriore rotundata et semicordata, latere interiore anguste rotundata, supra viridis, glabra, nervis prominentibus, subtus pallidior, glabra vel ad costam

minute puberula, costa gracili elevata, nervis lateralibus utroque latere c. 16, gracilibus, prominentibus, angulo acuto adscendentibus, subarcuatis, prope marginem conjunctis, nervulis prominulis laxe reticulatis; flores et fructus ignoti.—Honduras: Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 m., December 18, 1927, *Paul C. Standley 53260* (Herb. Field Mus. No. 582,650, type). Also *Nos. 53364* and *54840* from the same locality.

This tree, likewise, is known only from sterile material, but the form of the leaves is quite different from that of any other Central American species.

Coccoloba Wercklei, sp. nov.—Arbor mediocris vel parva omnino glabra; ocreae tenues usque ad 1.5 cm. longae; petioli graciles 1.5-2 cm. longi; lamina suborbicularis vel rotundato-ovalis, 7.5-10 cm. longa, 7-9 cm. lata, apice rotundata et breviter protracta, acumine triangulari obtuso, basi cordata, sinu lato vel angusto, membranacea, concolor, nervis supra prominulis, costa subtus elevata gracili, nervis lateralibus utroque latere c. 9, gracillimis, prominentibus, angulo acuto latove adscendentibus, nervulis inconspicuis; racemi terminales, breves, 4-5 cm. longi, pedicellis solitariis gracilibus 9-12 mm. longis; fructus ovoideus, c. 1 cm. longus, niger, edulis, tubo accrescente perianthii inclusus, pulpa violacea acida. —Costa Rica: El Coyolar, alt. 150 m., January, 1912, *C. Wercklé* (U. S. Nat. Herb. No. 865,109, type).

"Carro caliente." A relative of the Honduran *C. Browniana* Standl., but in the latter the pedicels are only 5 mm. long.

NYCTAGINACEAE

Neea acuminatissima, sp. nov.—Frutex 1-2-metralis pauciramosus, ramulis validis subteretibus sordide ochraceis glabris sparse lenticellatis; folia opposita, magna, breviter petiolata, petiolo valido 0.7-1.5 cm. longo glabro; lamina crasse membranacea, oblonga, lanceolato-oblonga, oblanceolato-oblonga vel elliptico-oblonga, 20-38 cm. longa, 6-12 cm. lata, apice longissime acuminata, acumine saepe fere lineari et usque ad 7 cm. longo, longe attenuato, basin versus longe sensimque angustata, basi ipsa plerumque solemniter inaequali, glabra, supra viridis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 18, angulo lato divergentibus, leviter arcuatis, gracillimis, prominentibus, prope marginem conjunctis, nervulis inconspicuis vix prominulis laxissime reticulatis; inflorescentia feminea terminalis cymoso-paniculata, laxe pauciflora, 2.5-5 cm. longa et aequilata, ramis paucis brevibus divaricatis glabris vel sparse minuteque puberulis, pedicellis crassis 3-4 mm. longis; bracteae lineari-subulatae vel fere filiformes, 3-5 mm. longae, glabrae, persistentes; anthocarpium 12-16 mm. longum, lanceolato-oblongum, obscure et tenuiter costatum, glabrum, apicem versus

acuminatum, basi rotundatum.—Honduras: In wet thicket, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 m., February 9, 1928, *Paul C. Standley 55794* (Herb. Field Mus. No. 581,056, type). Also, from the same region, *Nos. 53968a, 54314, 54686, 53215, 56747.*

The fruits are pinkish white, red, reddish green, or dark purplish, but it is probable that at maturity they are black. This shrub resembles *N. urophylla* Standl., of Panama, but the latter has much broader, abruptly caudate-acuminate leaves. The only other *Neea* growing about Tela is *N. psychotrioides* Donn. Smith, which has small leaves and fruits. The leaves of *N. acuminatissima* are remarkable for their exceedingly long and narrow acuminations.

MENISPERMACEAE

Disciphania calocarpa, sp. nov.—Frutex alte scandens, ramis inferne nudis, cortice suberosa crassa profunde sulcata grisea obtectis, novellis gracillimis striatis glabris; folia longissime petiolata, petiolo gracili plerumque 9-12 cm. longo striato glabro; lamina 2.5-4 cm. supra basin peltata, late ovata vel elliptico-ovata, 11.5-16.5 cm. longa, 7-10.5 cm. lata, acuta vel abrupte acuta, acumine obtuso, basi late rotundata, papyracea, glabra, supra viridis, lucida, nervis pallidis prominulis, subtus vix pallidior, nervis prominentibus; spicae femineae e ramis vetustioribus nudis nascentes, graciliter longipedunculatae, pedunculo c. 6 cm. longo, rhachi 25 cm. longa et ultra, remotiflora, glabra; fructus ovalis, c. 2 cm. longus, ruber, glaber, basi et apice rotundatus; endocarpium compressum, rotundato-ellipticum, 1.5-1.8 cm. longum, 1-1.5 cm. latum, basi et apice obtusum vel acutiusculum, dorso longitrorsum 3-costatum, marginibus tenuibus.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 40 meters, December 10, 1927, *Paul C. Standley 52817* (Herb. Field Mus. No. 582,553, type). Lancetilla Valley, *Standley 54128.*

The genus *Disciphania* has not been reported previously from Central America, the other species being South American and chiefly Brazilian. The Honduras plant is closely related to *D. peltata* (Schum.) Diels, of Brazil, which differs in its short petioles, 2-2.5 cm. long, small leaves, and axillary inflorescences.

Hyperbaena hondurensis, sp. nov.—Frutex parvus scandens, ramulis gracilibus, teretibus, striatis, brunneis vel olivaceis, novellis puberulis vel pilosulis; petioli elongati, graciles, 4-9 cm. longi, striati, puberuli, apice paullo incrassati; lamina papyracea, oblonga, oblongo-ovata vel ovata, 9-23 cm. longa, 4-14.5 cm. lata, abrupte acuta vel acuminata, acumine obtuso, basi rotundata vel interdum truncata, supra viridis, glabra vel ad costam paullo puberula, costa

impressa, nervis prominentibus, subtus vix pallidior, ad nervos puberula vel glabrata, basi 5-nervia, costa gracili elevata, utroque latere pares 2-3 nervorum lateralium emittente, nervulis prominentibus subparallelis reticulato-conjunctis; flores et fructus ignoti.—Honduras: In wet thicket, Lancetilla Valley near Tela, Dept. Atlántida, altitude about 50 meters, January 28, 1928, *Paul C. Standley 55220* (Herb. Field Mus. No. 584,007, type). Lancetilla Valley, *Standley 54004, 53179, 52765, 54641*. Near Tela, *Standley 54293*.

The plant is common in the Lancetilla region, growing in wet forest or thickets, but I was unable to find any plants with either flowers or fruits, and this is generally the case with plants of this genus in the forests of Central America. *Hyperbaena hondurensis* is related to *H. panamensis* Standl., of Panama, but in the latter the petioles are only 1-2.5 cm. long and the venation of the leaves is conspicuously different.

MONIMIACEAE

Mollinedia Butleriana, sp. nov.—Frutex vel arbor 3-6-metralis, sparse ramosa, ramis teretibus gracilibus, novellis dense pilulis minutis patulis pubescentibus, internodiis elongatis; petioli crassi 10-13 mm. longi, dense velutino-pilosuli; lamina pergamentacea, magna, ovalis vel late ovali-elliptica, rarius oblongo-elliptica, 15-24 cm. longa, 8-15.5 cm. lata, apice obtusa vel saepius rotundata et apiculata, basi subacuta vel late obtusa, integra vel remote et obscure undulato-serrulata, supra viridis, scaberula vel fere glabra, nervis non elevatis, subtus pallidior, ubique sed prasertim ad nervos pilis minutis patulis subvelutino-pubescens, costa gracili elevata, nervis lateralibus utroque latere c. 5, angulo lato adscendentibus, fere rectis, prominentibus, remote a margine arcuato-conjunctis, nervulis prominulis laxe reticulatis; flores umbellati, pedunculis solitariis vel fasciculatis, 6-10 mm. longis, patenti-pilosulis, 1-3-floris, pedicellis 2-3 mm. longis; calyx obovoideus 4.5 mm. longus, dense breviterque pilosulus, parte libera sepalorum late rotundata, vix 1 mm. longa; drupae numerosae sessiles subglobosae, 4-5 mm. longae, sparse et minute pilosulae, virides, apice rotundatae.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 500 m., March 13, 1928, *Paul C. Standley 56770* (Herb. Field Mus. No. 581,952, type). Nos. *52712, 54688*, and *55296*, from the hills about Lancetilla, represent the same species.

Mollinedia Butleriana is closely related to *M. guatemalensis* Perk., of Guatemala and British Honduras, but in the latter the leaves are much smaller and narrower, and the pubescence of all parts is closely appressed, rather than spreading. The shrub is common in the wet dense forest at all elevations on the hills about Lancetilla.

The species is named for Mr. Alfred F. Butler, of the Lancetilla Experiment Station, to whom the writer is indebted for innumerable courtesies which helped to make his work in the Lancetilla Valley extremely pleasant.

Connarus Popenoei, sp. nov.—Frutex alte scandens, ramulis gracilibus teretibus griseis striatis, novellis dense villoso-tomentosis; petioli graciles 7-9.5 cm. longi, teretes, ferrugineo-tomentosi vel glabrati, rhachi folii 5-10 mm. longa; foliola 3, petiolulo 2-3 mm. longo crasso dense tomentoso; lamina elliptico-oblonga vel obovato-oblonga, 11-22 cm. longa, 4-10 cm. lata, apice obtusa vel breviter et abrupte obtuso-acuminata, basin versus angustata, basi ipsa obtusa, supra glabra, costa elevata, nervis subimpressis, subtus paullo pallidior, ad nervos sparse adpresso-pilosa vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere c. 6, prominentibus, angulo acuto adscendentibus, irregularibus, remote a margine conjunctis, nervulis prominulis laxe reticulatis; inflorescentiae novellae dense ferrugineo-tomentosae, racemis fructiferis 11-20 cm. longis, gracilibus, paniculatis vel ad axillas fasciculatis, tomentosis, floribus subsessilibus; calyx persistens, laciniis oblongis acutis tomentosis vel glabratis; petala persistentia calyce paullo longiora; folliculus valde obliquus, 4-5 mm. longe stipitatus, 2-2.4 cm. longus, 1.5 cm. latus, conspicue striatus, brunneo-ruber, dense ferrugineo-tomentosus vel glabratus.—Honduras: Wet forest, Lancetilla Valley near Tela, Dept. Atlántida, altitude about 25 meters, January 5, 1928, *Paul C. Standley 54130* (Herb. Field Mus. No. 583,960, type). Lancetilla Valley, *Standley 53352, 55276*.

Related to *C. Lamberti* (DC.) Britton, which occurs in Guatemala, but in that the follicles are nearly sessile and much smaller, and the leaflets average smaller and are less conspicuously veined.

LEGUMINOSAE

Inga belizensis, sp. nov.—Arbor 12-metralis, trunco 15 cm. diam., ramulis gracilibus ochraceis rimosis, novellis puberulis; folia parva, breviter petiolata, rhachi 3-4 cm. longa, minute puberula vel glabrata, angustissime alata, glandulis parvis crateriformibus inter foliola instructa; foliola 3-juga, subsessilia, lanceolato-oblonga vel oblanceolato-oblonga, rarius obovato-oblonga, 5.5-8 cm. longa, 2-3.3 cm. lata, abrupte acuminata, acumine angusto vel lato, obtuso vel acuto, interdum falcato, basin versus cuneatim angustata, subcoriacea, glabra vel in statu juvenili sparse minuteque puberula, costa utrinque prominula, nervis non elevatis; flores spicati, spicis in axillis fasciculatis, 1-2 cm. longis, dense multifloris, capituliformibus, graciliter 1.5-3.5 cm. longe pedunculatis, pedunculis minute puberulis, floribus sessilibus, bracteis minutis calyce brevioribus; calyx minute puberulus, 1-1.3 mm. longus, minute 5-dentatus; corolla 5 mm. longa, glabra vel apice tantum puberula, tubo gracili

superne dilatato, lobis oblongis acutiusculis 1.5 mm. longis; stamina alba, c. 12 mm. longa.—British Honduras: Mullins River road, February 22, 1929, *William A. Schipp 24* (Herb. Field Mus. No. 588,325, type).

Acacia telensis, sp. nov.—Frutex interdum scandens, ramulis crassis, subteretibus, viridibus, glabris, aculeis gracilibus recurvis 1-3 mm. longis dense armatis, interdum aculeis compressis basi valde dilatatis et 10-14 mm. latis 6-9 mm. longis ochraceis lucidis obsitis; folia magna, 15-20 cm. longa, 1.5-7 cm. longe petiolata, rhachi 12-20 cm. longa, aculeata, angulata, minute puberula vel glabrata, inter pinnas glandulis depressis instructa, petiolo glandulis 2 depressis instructo; pinnae c. 11-jugae, 5.5-9 cm. longae, foliolis c. 27-jugis, lineari-oblongis, 6-12 mm. longis, 1.5-2 mm. latis, glabris, membranaceis, obtusis vel acutiusculis, basi truncatis vel obtusis et obliquis, subtus pallidioribus, nervis non elevatis; legumen late lineare, 12-18 cm. longum, 2 cm. latum, apice obtusum vel rotundatum et breviter apiculatum, basin versus attenuatum, glabrum, 7-11-spermum; semina orbicularia, 6 mm. lata, compressa, castanea, lucida.—Honduras: Wet thicket, Lancetilla Valley near Tela, Dept. Atlántida, alt. 75 m., December 9, 1927, *Paul C. Standley 52738* (Herb. Field Mus. No. 582,322, type). Also *No. 54453* from the same locality.

The available material is poor, consisting only of leafy branches with detached fruits, but no better specimens could be found. The affinities of the proposed species are, of course, uncertain, but Dr. Britton states that the plant is unknown to him, and it is, therefore, probably new.

Pithecolobium Tonduzii (Britt. & Rose.), comb. nov. *Cojoba Tonduzii* Britt. & Rose, N. Amer. Fl. 23: 30. 1928.

Pithecolobium leucocalyx (Britt. & Rose), comb. nov. *Samanea leucocalyx* Britt. & Rose, N. Amer. Fl. 23: 34. 1928.

Pithecolobium guatemalense (Britt. & Rose), comb. nov. *Chloroleucon guatemalense* Britt. & Rose, Trop. Woods 10: 24. 1927.

Pithecolobium Langlassei (Britt. & Rose), comb. nov. *Chloroleucon Langlassei* Britt. & Rose, N. Amer Fl 23: 38. 1928.

Calliandra Rekoi (Britt. & Rose), comb. nov. *Anneslia Rekoi* Britt. & Rose, N. Amer. Fl. 23: 53. 1928.

Calliandra splendens (Britt. & Rose), comb. nov. *Anneslia splendens* Britt. & Rose, N. Amer. Fl. 23: 53. 1928.

Calliandra tergemina (L.), comb. nov. *Mimosa tergemina* L. Sp. Pl. 517. 1753. *Anneslia tergemina* Britt. & Rose, N. Amer. Fl. 23: 53. 1928.

Calliandra yucatanensis (Britt. & Rose), comb. nov. *Anneslia yucatanensis* Britt. & Rose, N. Amer. Fl. 23: 53 1928.

Calliandra Deamii (Britt. & Rose), comb. nov. *Anneslia Deamii* Britt. & Rose, N. Amer. Fl. 23: 56. 1928.

Calliandra pubiflora (Britt. & Rose), comb. nov. *Anneslia pubiflora* Britt. & Rose, N. Amer. Fl. 23: 58. 1928.

Calliandra speciosa (Mart. & Gal.), comb. nov. *Inga speciosa* Mart. & Gal. Bull. Acad. Brux. 10²: 320. 1843.

Calliandra Tonduzii (Britt. & Rose), comb. nov. *Anneslia Tonduzii* Britt. & Rose, N. Amer. Fl. 23: 61. 1928.

Calliandra rubescens (Mart. & Gal.), comb. nov. *Acacia rubescens* Mart. & Gal. Bull. Acad. Brux. 10²: 315. 1843. *Anneslia rubescens* Britt. & Rose, N. Amer. Fl. 23: 61. 1928.

Calliandra belizensis (Britt. & Rose), comb. nov. *Anneslia belizensis* Britt. & Rose; Standl. Trop. Woods 11: 19. 1927.

Calliandra mollicula (Mart. & Gal.), comb. nov. *Acacia mollicula* Mart. & Gal. Bull. Acad. Brux. 10²: 313. 1843. *C. malacophylla* Benth. Lond. Journ. Bot. 3: 100. 1844.

Calliandra media (Mart. & Gal.), comb. nov. *Acacia media* Mart. & Gal. Bull. Acad. Brux. 10²: 316. 1843. *C. angelica* Benth. Lond. Journ. Bot. 3: 100. 1844.

Calliandra gracilis (Mart. & Gal.), comb. nov. *Acacia gracilis* Mart. & Gal. Bull. Acad. Brux. 10²: 311. 1843.

Calliandra Callistemon (Schlecht.), comb. nov. *Acacia Callistemon* Schlecht. Linnaea 12: 568. 1838.

Calliandra yoroensis (Britton), comb. nov. *Anneslia yoroensis* Britton, N. Amer. Fl. 23: 193. 1928.

Acacia sesquijuga (Britt. & Rose), comb. nov. *Acaciopsis sesquijuga* Britt. & Rose, N. Amer. Fl. 23: 95. 1928.

Erythrina hondurensis, sp. nov.—Frutex vel arbor 3-6-metralis, ramulis crassis, ochraceis, glabratis, dense aculeatis, aculeis 5-8 mm.

longis et ultra, compressis, basi dilatatis, ochraceis vel stramineis; folia magna, 20-27 cm. longe petiolata, rhachi 6-7 cm. longa, gracili, dense tomentosa vel glabrata, petiolulis 5-17 mm. longis; foliola membranacea, terminale deltoideum vel late rhombicum, 14-21 cm. longum et 12-19 cm. latum, abrupte longiacuminatum, acumine angusto, attenuato, basi truncatum vel late obtusum, foliola lateralia angustiora et paullo minora, basi valde obliqua, omnia primo supra pilis longis mollibus sordidis dense pilosa, mox glabrata, viridia, subtus pallida, dense adpresso-pilosa, serius fere glabra, inermia, interdum glaucescentia; racemi densi, multiflori, c. 11 cm. longi et 7 cm. longe pedunculati, rhachi dense tomentosa, crassa, pedicellis crassis 3-5 mm. longis tomentosis; calyx tubulosus, superne paullo dilatatus, 1.5 cm. longus, dense tomentosus vel serius glabratus, basi obtusus, apice 6-7 mm. latus, truncatus vel uno latere brevissime fissus; corolla coccinea, glabra, vexillo 7-7.5 cm. longo, obtuso, c. 1 cm. lato, alis et petalis carinalibus calyce brevioribus; stamina 5-6 cm. longa, glabra; ovarium graciliter stipitatum, dense tomentosum; legumen 4.5 cm. longe stipitatum, c. 16 cm. longum et 1.5 cm. latum, dense tomentosum vel glabratum, inter semina valde constrictum, c. 7-spermum; semina coccinea, 12 mm. longa, 8 mm. lata.—Honduras: In wet thicket, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 m., January 12, 1928, *Paul C. Standley 54411* (Herb. Field Mus. No. 583,771, type). Also *Nos. 52757* and *55504* from the same locality.

"Pito." Flowers scarlet or fiery red and very showy. The tree blooms when nearly or quite devoid of leaves.

A relative of *E. costaricensis* Micheli, of Costa Rica and Panama, but differing from that species in the loose tomentum which invests all parts during anthesis, and in the shorter calyx and corolla.

Dioclea Wilsonii, sp. nov.—Frutex magnus scandens, ramis teretibus dense pilis 3-5 mm. longis rigidis ferrugineis patentibus hirsutis; stipulae persistentes, anguste lanceolatae, 9-15 mm. longae, basi infra insertionem in auriculam fere aequilongam protractae, dense hirsutae, longe attenuatae; petiolus 5.5-7.5 cm. longus, hirsutus, rhachi 2.5-3 cm. longa; foliola 5-7 mm. longe petiolulata, ovalia vel ovali-elliptica, 8-17 cm. longa, 5-10 cm. lata, subcoriacea, apice rotundata et abrupte breviterque apiculata vel acuminata, basi rotundata, lateralia paullo obliqua, supra viridia, lucida, praesertim ad nervos hirtella vel hirsuta, aliter glabrata, nervis nervulisque prominulis, subtus pallidiora, ubique pilis brevibus patentibus saepe ferrugineis hirsuta, costa gracili elevata, nervis lateralibus utroque latere c. 8, angulo acuto adscendentibus, gracilibus, subarcuatis, prope marginem conjunctis, nervulis prominulis et reticulatis; racemi 8-24 cm. longi, 10-18 cm. longe pedunculati, dense multiflori, rhachi pilis brevibus adscendentibus vel subadpressis saepe nigrescentibus vel ferrugineis dense induta; bracteae deciduae, anguste lineares, patentes vel adscendentes, 1-1.5 cm. longae, attenuatae,

dense adpresso-hirsutae; flores ad nodos fasciculati, subsessiles; bracteolae late ovatae, 2-2.5 mm. longae, mucronatae; calyx 3½ mm. longus, dense adpresso-pilosulus et ciliatus, labio superiore late rotundato; corolla in alabastro 5 mm. longa, vexillo extus dense strigoso.—Honduras: Point Triunfo, near Tela, February 6, 1903, *Percy Wilson* 336 (Herb. Field Mus. No. 186,054, type). Wet thicket, Lancetilla Valley, near Tela, Dept. Atlántida, *Standley 55568* (sterile). Guatemala: Los Amates, Dept. Yzabal, in 1908, *Kellerman 7478*.

The species is noteworthy for the abundant long harsh pubescence.

Dalbergia Calderonii, sp. nov.—Arbor 4-metralis, ramulis gracilibus ochraceis rimosis, novellis dense puberulis; folia 12-16 cm. longa, 2-3 cm. longe petiolata, rhachi 5.5-7 cm. longa, gracili, subtereti, minute pilosula; foliola c. 5, 3-5 mm. longe petiolulata, crasse membranacea, ovata vel ovato-oblonga, 4.5-8.5 cm. longa, 2-3.5 cm. lata, versus apicem obtusum sensim angustata, minute apiculata, basi obtusa vel rotundata, supra lucida, sparse puberula vel fere glabra, nervis prominulis, subtus brunnescentia, ubique incurvo-puberula, ad costam pilosula, costa nervisque gracilibus prominentibus, nervulis prominulis arcte reticulatis; paniculae axillares, fructiferae 6-8 cm. longae, laxe pauciflorae, breviter pedunculatae, pedicellis brevibus; legumen oblongum, tenue, 5-5.5 cm. longum, 1.5-2 cm. latum, apice obtusum vel rotundatum et minute apiculatum, basi acutum et in stipitem 4-6 mm. longum decurrens, 1-spermum, ubique densissime velutino-pilosulum.—Salvador: La Reina, Dept. Chalatenango, in 1928, *Salvador Calderón 2654* (Herb. Field Mus. No. 580,410, type).

Lonchocarpus monospermus, sp. nov.—Arbor 4.5-9-metralis, ramulis fusco-ferrugineis vel fusco-griseis, striatis, elevato-lenticellatis; folia alterna, 20-26 cm. longa, 4.5-5.5 cm. longe petiolata, rhachi 4-8 cm. longa, gracili, dense et minutissime adpresso-pilosula; foliola 5-7, 5-6 mm. longe petiolulata, subcoriacea, oblonga, ovalia, vel terminalia obovata, 6-14 cm. longa, 3-7 cm. lata, apice acuta vel rotundata et abrupte breviterque apiculata, basi obtusa vel rotundata vel in foliolis terminalibus acuta, supra glauco-viridia, praesertim ad nervos minute adpresso-pilosula, nervis interdum prominulis, subtus glauca, minutissime puberula, costa nervisque gracilibus prominentibus, nervulis prominulis arcte reticulatis; racemi axillares, solitarii, 8-10 cm. longi, 3-5.5 cm. longe pedunculati, dense multiflori, rhachi minutissime adpresso-pilosula, pedicellis fructiferis crassis 2-5 mm. longis; fructus valde compressus, late ovali-ellipticus vel interdum subrotundatus, 2.5-3.5 cm. longus, 1.5-2 cm. latus, ochraceus, apice abrupte acuminatus vel rotundatus et longe mucronatus, basi subrotundatus et abrupte in stipitem brevem contractus, ubique densissime et minute adpresso-pilosus, marginibus tenuibus; semina reniformia, valde compressa, ferrugineo-brunnea, 14 mm. longa, laevia, lucida.—Honduras: In wooded swamp near Tela, Dept. Atlántida,

at sea level, December 27, 1927, *Paul C. Standley 53715* (Herb. Field Mus. No. 583,044, type). Also *No. 53599* from the same locality.

The tree is plentiful in the swamps about Tela. The species is easily recognized by its small one-seeded pods.

EUPHORBIACEAE

Acalypha lancetillae, sp. nov.—Frutex 2.5-3.5 m. altus, gracilis, ramulis densissime pilis brevibus pallidis patentibus mollibus pilosis, vetustioribus teretibus pallide cinnamomeis rimosis et sparse lenticellatis, internodiis brevibus vel elongatis; stipulae 7 mm. longae, setaceae, persistentes, puberulae; petioli 0.5-2 cm. longi, graciles, densissime pilosi; lamina membranacea, oblonga vel obovato-oblonga, 7-17 cm. longa, 3-7 cm. lata, longe acuminata, acumine angusto acuto vel obtuso, basin versus paullo vel longe cuneatimque angustata, basi ipsa obtusa, rotundata vel breviter cordata, arcte serrata, serraturis parvis adpressis, supra viridis, ubique hirsuta vel hirtella vel inter nervos glabrata, costa nervisque prominulis, subtus paullo pallidior, ubique dense pilis brevibus patentibus velutino-pilosa, penninervia, costa gracili elevata, nervis lateralibus utroque latere c. 11, gracilibus, prominentibus, angulo lato adscendentibus, juxta marginem anastomosantibus, nervulis transversis rectis vel undulatis subparallelis conjunctis; flores monoici; spicae masculae densiflorae graciles axillares subsessiles plerumque 5-8 cm. longae 2 mm. crassae; bracteae femineae ut videtur in axillis solitariae et sessiles vel subsessiles, profunde laciniatae, dense pilosae; styli c. 6 mm. longi, pinnatim multilacinuligeri.—Honduras: In wet forest high on the hills above Lancetilla Valley, near Tela, Atlántida, alt. 600 m., March 13, 1928, *Paul C. Standley 56782* (Herb. Field Mus. No. 581,788, type). Also *No. 56806* from the same locality.

The inflorescences are so immature that it is impossible to determine the exact nature of the pistillate bracts, whose character is so important in segregating the species of this genus. In the shape of the leaves this species somewhat suggests *A. costaricensis* (Kuntze) Knobl., although it is not closely related to that. Its true position within the genus must remain uncertain until better material has been collected.

Dalechampia laevigata, sp. nov.—Volubilis, herbacea; caules gracillimi, breviter albido-pubescentes, ultimi fere filiformes; stipulae virides, lineari-lanceolatae, 4-6 mm. longae; petiolus 2-6.5 cm. longus, gracilis, albido-pubescens vel glabratus; lamina ovata, late ovata vel oblongo-ovata, 7-16 cm. longa, 3.5-10 cm. lata, obtusa et apiculata vel acuta vel acuminata, basi truncata vel saepius breviter vel usque ad 1.5 cm. profunde cordata, 3-5-nervia, obsolete remoteque serrulata vel subintegra, crasse membranacea, supra glauco-viridis,

ad nervos minute puberula, costa nervisque prominentibus, subtus fere concolor, ad nervos minute pilosula, inter nervulos minutissime sparseque strigillosa, costa gracili elevata, utrinque nervos c. 4 angulo acuto adscendentes emittente, nervulis prominentibus arcte reticulatis; inflorescentiae pedunculatae, bracteis involucralibus viridibus membranaceis, inaequalibus, latissime rotundato-ovatis, c. 2 cm. longis et 3 cm. latis, obtusis vel latissime obtusis, basi truncatis vel obtusissimis, repando-denticulatis, fere glabris; sepala floris feminei c. 7, pinnatim partita, parte rhachiali lineari, lacinulis numerosis linearibus patentibus dense hispidis, sub fructu 1 cm. longis et ultra; ovarium dense puberulum; columna stylaris filiformis, apice paullo dilatata; capsula depresso-globosa, profunde triloba, minute puberula, 1 cm. lata; semina globosa, 4 mm. diam., laevia, brunnescentia.—Honduras: In wet thicket, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 m., December 23, 1927, *Paul C. Standley 53531* (Herb. Field Mus. No. *583,076*, type). Also from the same locality, *Nos. 53850, 54652, 54135, 55271, 56651*.

A relative of *D. Schottii* Greenm., of Yucatan, but the latter differs in its densely pubescent leaves and much smaller bracts.

Euphorbia amphimalaca, sp. nov.—Herba adscendens, caulibus gracilibus elongatis usque ad 1 m. longis et ultra, dense pilis albidis mollibus multicellularibus patentibus villosis, internodiis elongatis; folia alterna, longe petiolata vel suprema subsessilia, petiolo vulgo 7-20 mm. longo, dense villoso; lamina membranacea, ovata vel elliptico-ovata, 2.5-6 cm. longa, 1.5-3.5 cm. lata, acuta vel subobtusa, basi obtusa vel rotundata, supra viridis, sparse pilis albidis gracillimis villosa, costa non elevata, nervis obscuris, subtus pallida, dense pilis longis albidis patentibus villosa, costa prominula, nervis lateralibus obscuris; inflorescentiae terminales, saepe foliorum verticillo e foliis 3 subsessilibus composito fulcratae, cymosae, pedunculatae, 1-1.5 cm. longae, bracteis minutis vel deciduis; involucra pauca, breviter pedicellata, 1 mm. longa, cyathiformia, adpresse albido-pilosula, glandulis rotundatis c. 0.7 mm. latis, appendicibus petaloideis albis, 1 mm. latis et 0.5 mm. longis, integris, intus glabris.—Honduras: On moist shaded bank at the base of cliffs along stream, near Siguatepeque, Dept. Comayagua, alt. 1,200 m., February, 1928, *Paul C. Standley 56341* (Herb. Field Mus. No. *582,112*, type).

A species well marked by the very long and slender stems and by the densely pubescent leaves.

Euphorbia siguatepequensis, sp. nov.—Herba annua erecta omnino glabra, 6-10 cm. alta, superne ramosa, ramis gracillimis dichotomis adscendentibus; stipulae minutae subulatae vix 0.3 mm. longae; folia opposita, petiolo 1 mm. longo; lamina subcoriacea, enervia, ovata, oblonga vel oblongo-ovata, 4-7 mm. longa, 2-3.5 mm. lata, apice obtusa vel anguste rotundata, basi valde obliqua, uno latere angustata, altero profunde semicordata, obsolete serrulata vel

fere integra, supra pallide viridis, subtus glaucescens vel purpurascens, costa supra obsoleta, subtus manifesta sed non elevata, marginibus revolutis; involucra pauca, ex axillis supremis nascentia, breviter graciliterque pedicellata, glabra, turbinata, 0.5 mm. longa, pauciflora, appendicibus minutis rotundatis glabris rubicundis; capsula glabra, longe stipitata, 2 mm. lata, breviter triloba; semina ovali-globosa, 1 mm. longa, laevia, obscure glauco-brunnea.—Honduras: In pine forest, near Siguatepeque, Dept. Comayagua, alt. 1,200 m., February, 1928, *Paul C. Standley 56266* (Herb. Field Mus. No. 581,689).

Subgenus *Chamaesyce*. An apparently well-marked form, which does not agree with any description available nor with any of the many species represented by authentic material in the herbarium of Field Museum.

Plukenetia angustifolia, sp. nov.—Frutex volubilis, ramis gracilibus teretibus, novellis incurvo-puberulis, internodiis elongatis; stipulae minutae cito deciduae; folia breviter petiolata, petiolo gracili 6-13 mm. longo albido-puberulo; lamina crasse membranacea, oblonga vel anguste oblonga, 4.5-10 cm. longa, 1.5-4 cm. lata, abrupte acuminata, acumine angusto attenuato acuto vel apiculato, basi obtusa vel rotundata, interdum basin versus cuneatim angustata, remote et brevissime serrulata, supra viridis, ad costam puberula vel fere omnino glabra, costa nervisque prominulis, subtus paullo pallidior, glabra vel ad nervos hinc inde pilosula, basi trinervia, nervis basalibus lateralibus brevibus, nervis lateralibus utroque latere c. 8, angulo lato adscendentibus, gracillimis, subarcuatis, prope marginem arcuato-conjunctis, nervulis prominulis laxe reticulatis; racemi axillares solitarii 2-2.5 cm. longi, breviter pedunculati, graciles, laxe remotiflori, nodis paucifloris, flore femineo solitario e basi racemi nascente, in statu fructifero graciliter 1.5-2 cm. longe pedicellato; pedicellus floris masculi gracilis puberulus 3-6 mm. longus; bracteae minutae virides lanceolatae persistentes; flores masculi in alabastro globosi, per anthesin 4-partiti, extus sparse puberuli; stamina numerosa; capsula depresso-globosa, profunde 4-loba, 1-1.5 cm. lata, glabra, viridis, coccis dorso carinatis, ad medium obtuse tuberculatis, stylo persistente crasso 1.5 mm. longo.—Honduras: In wet thicket, Lancetilla Valley, Dept. Atlántida, alt. 100 m., March 8, 1928, *Paul C. Standley 56708* (Herb. Field Mus. No. 581,511, type). Guatemala: Cubilquitz, June, 1901, *H. von Tuerckheim 11.372*. British Honduras: Big Creek, *W. A. Schipp 156*.

This curious vine, of rather wide distribution, seems to belong properly enough in the genus *Plukenetia*. It is possible that it may be the same as *P. penninervia* Muell. Arg., which is reported from Venezuela and Mexico (the reference to Mexico, based upon a Pavón specimen is very doubtful), but it disagrees in several respects with the description of that species. The glands at the base

of the leaf blade, which are described for *P. penninervia* as being 1-1.5 mm. long, I have not found in the plant here described.

RHAMNCAEAE

Gouania eurycarpa, sp. nov.—Frutex 3-4.5 m. altus, ramis elongatis saepe subscandentibus, novellis dense pilosis; petioli 8-12 mm. longi validi, dense fulvo-pilosi; lamina elliptica vel ovato-elliptica, 5-8.5 cm. longa, 2.5-5.5 cm. lata, acuta vel abrupte acuta, basi obtusa vel rotundata, remote et adpresse serrato-crenata, supra viridis, dense pilosa vel glabrata, subtus paullo pallidior, dense velutino-pilosa, costa et nervis elevatis gracilibus; racemi breves, 6-9 cm. longi, densiflori, dense breviterque pilosi, floribus fere sessilibus; fructus 1.5 cm. latus, 10-12 mm. longus, basi et apice emarginatus, dense velutino-pilosus, alis crassissimis, 5-6 mm. latis.—Honduras: In wet thicket, near Progreso, Dept. Yoro, alt. 30 meters, January 24, 1928, *Paul C. Standley 54988* (Herb. Field Mus. No. 583,665, type).

It is quite unexpected to find in Central America a distinct species of this genus, which consists of weedy shrubs. *Gouania eurycarpa* is evidently related to *G. polygama* (Jacq.) Urban, but the fruits are much larger than any I have seen on specimens of that species, and much more densely pubescent. The leaves, also, are more copiously pubescent than is usual in *G. polygama*.

MALVACEAE

Malvaviscus Cutteri, sp. nov.—Frutex vel arbor parva 1.5-4.5 m. alta, ramulis crassiusculis dense pilis longis albidis stellato-pilosis; petioli graciles 7-13 cm. longi dense stellato-pilosi; lamina magna late ovata vel rotundato-ovata, 20-25 cm. longa et ultra, 13-19 cm. lata, interdum obscure angulata, grosse et inaequaliter dentata, basi breviter cordata, apice sensim vel abrupte longiacuminata, utrinque viridis et pilis longis rigidis stellatis vel tantum furcatis interdum simplicibus sat sense hirsuta, basi 5-7-nervia; flores breviter racemosi, racemis axillaribus pauci- vel multifloris, pedicellis 1-1.5 cm. longis dense stellato-hirsutis; calyx viridis, 1.7-2 cm. longus, stellato-hispidus, lobis anguste triangularibus 7-8 mm. longis sensim acuminatis; bracteolae c. 8 lineares, longe attenuatae, 7-11 mm. longae, dense stellato-hirsutae; corolla pallide rubra extus sparsissime stellato-hispida, petalis 5 cm. longis; columna staminalis 1 cm. longe exserta; fructus c 1.5 cm. latus depresso-globosus glaber.—Honduras: Wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 meters, January 5, 1928, *Paul C. Standley 54127* (Herb. Field Mus. No. 583,957, type). Lancetilla Valley, in thicket, *Standley 52756*.

Most of the species of *Malvaviscus* are poorly defined, and it seems altogether impossible to separate them by definite and plau-

sible characters. No two plants, as a rule, are just alike, and all the ordinarily dependable characters used in separating species of Malvaceae seem to fail in this genus. For this reason I had never expected to describe a new species of the group, unless possibly one should be found with blue flowers, pinnate leaves, or some equally outstanding character. The present plant, however, was recognized in the field as being something quite different from anything which I had seen previously in Central America, and comparison in the herbarium shows that it is quite distinct from all the material available for study. The very large leaves alone are sufficient to distinguish it, and the arrangement of the flowers in many-flowered inflorescences, and their dense coarse pubescence, separate the plant definitely. When growing it is far handsomer than most species of the genus, and it is well worthy of introduction into cultivation. It was noted only in the wet forest at the base of the hills above Lancetilla, where it is rather plentiful.

The species is named for Mr. Victor M. Cutter, President of the United Fruit Company, who has always been generous in encouraging botanical and other scientific exploration in Central America.

FLACOURTIACEAE

Xylosma sylvicola, sp. nov.—Frutex vel arbor 2-6-metralis, trunco spinis ramosis armato, ramulis gracilibus flexuosis glabris lenticellis parvis elevatis conspicue conspersis, vetustioribus ochraceis; folia sparsa breviter petiolata, petiolo gracili 2-5 mm. longo glabro; lamina membranacea, elliptico-oblonga vel elliptica, 6.5-11.5 cm. longa, 2.5-4.5 cm. lata, longe scuminata, acumine angusto saepe falcato integro obtuso vel subemarginato, basi obtusa vel acuta, arcte crenato-serrata, serraturis magnis subadpressis inaequalibus, supra viridis, glabra, nervis prominulis, subtus paullo pallidior, ad nervos minute puberula vel fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere c. 5, gracilibus, prominentibus, angulo acuto adscendentibus, subarcuatis, inaequalibus, remotissime a margine conjunctis, nervulis prominulis laxe reticulatis; flores feminei ad axillas vel ad nodos defoliatos fasciculati, pedicellis 6-10 puberulis 2-2.5 mm. longis; sepala ovata, 0.7-1 mm. longa, obtusa, viridia, minute puberula et ciliata, persistentia; fructus subglobosus, glaber, laevis, 7-8 mm. longus; semina 3, brunnea, 5 mm. longa, nitida.—Honduras: Wet mountain forest above Lancetilla Valley, near Tela, Dept. Atlántida, alt. 200 m., December 12, 1927, *Paul C. Standley 52917* (Herb. Field Mus. No. 582,875, type). Also *Nos. 54622* and *56884* from the same region. Wet thicket, Tela, at sea level, *Standley 56692*.

Like most other species of the genus, this has no outstanding characters, but it is scarcely referable to any of the Xylosmas described or recorded heretofore from Central America.

Lunania piperoides, sp. nov.—Arbor gracilis 6-9-metralis, trunco cortice laevi pallido obtecto, ramulis gracilibus subflexuosis minute puberulis vel glabratis, novellis stramineis, vetustioribus teretibus ochraceis rimosis, internodiis elongatis; folia alterna, petiolo gracili 1-1.8 cm. longo tereti minute puberulo et sparse hirsuto; lamina lanceolato-oblonga vel oblongo-ovata, 9-20 cm. longa, 3.5-8 cm. lata, abrupte sensimve acuminata vel longiacuminata, acumine angusto longe attenuato obtuso, basi obtusa vel subito breviterque contracta, crasse membranacea, supra viridis, glabra, costa subimpressa, nervulis prominulis, subtus fere concolor, ad costam nervosque minute puberula et sparse albido-hirsuta vel glabrata, basi trinervis, costa gracili elevata supra medium costas secundarias utrinque 2-3 emittente, nervulis transversis prominentibus parallelis fere rectis angulo recto e costa abeuntibus, nervulis ultimis prominulis et arcte reticulatis; flores parvi racemosi, racemis 3-5 gracilibus umbellatis vel breviter racemosis, umbellis breviter pedunculatis, racemis 4-7 cm. longis, densifloris, patentibus vel adscendentibus, rhachi dense puberula, bracteis minutis, pedicellis plerumque c. 1 mm. longis; sepala oblonga obtusa glabra 1.5-2 mm. longa; stamina 7-10, filamentis 2-3 mm. longis, antheris subglobosis 0.5 mm. longis; fructus subglobosus, glaber, pallide ruber, 5 mm. longus, laevis; semina numerosa, in pulpa nidulantia, ovoidea, 1 mm. longa.—Honduras: In wet forest above Lancetilla Valley near Tela, Dept. Atlántida, alt. 400 m., December 12, 1927, *Paul C. Standley 52875* (Herb. Field Mus. No. 582,908, type). Also from the same region, *Nos. 54152, 55371, 53869, 53293, 53998, 54420.*

Related to *L. mexicana* Brandeg., the only other species known from the North American mainland. In that the leaves are much smaller, and the pubescence consists wholly of minute, almost microscopic hairs.

MYRTACEAE

Eugenia lancetillae, sp. nov.—Arbor 6-metralis, ramis gracilibus brunneis rimosis, novellis dense et minute puberulis; petioli 6-8 mm. longi, crassiusculi, minute brunneo-puberuli; lamina oblonga vel elliptico-oblonga, 13-19 cm. longa, 5.5-7.5 cm. lata, anguste acuminata, acumine obtuso, basi obtusa vel acutiuscula, crasse membranacea, supra viridis, glabra, dense et minute pellucido-punctata, nervis nervulisque prominulis, subtus paullo pallidior, praesertim ad nervos minute puberula vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 10, gracilibus, prominentibus, saepe inaequalibus, arcuatis, remote a margine nervum collectivum efformantibus, nervulis prominulis laxe reticulatis; flores in axillis foliorum et ad ramos defoliatos fasciculati, sessiles vel subsessiles;

fructus subglobosus vel ovali-globosus, 12 mm. longus, luteo-viridis, glaber, dense et grosse glanduloso-punctatus; semen 1.8 mm. diam., brunneum.—Honduras: Wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 meters, December 10, 1927 *Paul C. Standley 53301* (Herb. Field Mus. No. 582,197, type).

The species is not closely related to any other known from Central America, the distinguishing characters being the large, narrow, pubescent leaves and the large subsessile fruits which are produced mostly along the older, leafless branches.

Calyptranthes Calderonii, sp. nov.—Rami graciles teretes ochracei plus minusve rimosi, novellis glabris, internodiis elongatis; folia longius petiolata, petiolo 6-9 mm. longo valido supra sulcato; lamina elliptico-oblonga vel oblongo-lanceolata, 4.5-6 cm. longa, 1-2.3 cm. lata, apicem versus longe attenuata, acumine obtuso, basi acuta, coriacea, utrinque dense et minute puncticulata, supra viridis, glabra, costa impressa, nervis obsoletis, subtus pallidior, sparse adpresso-pilosa vel glabrata, costa gracili elevata, nervis lateralibus utroque latere c. 15, prominulis, gracilibus, angulo acuto adscendentibus, prope marginem nervum collectivum efformantibus; paniculae terminales at axillares, fasciculatae, 3.5-4 cm. longe pedunculatae, laxe pauciflorae, folia superantes, ramis oppositis vel verticillatis, patentibus, rigidis, glabris, floribus plerumque ternatis sessilibus vel brevissime stipitatis; calyx in alabastro ellipsoideus, 2.5 mm. longus, obtusus, glaber, punctatus; flores et fructus non visi.—Salvador: Cerro de Apaneca, in 1928, *Salvador Calderón 2423* (Herb. Field Mus. No. 585,354, type).

Vernacular name, "escobo." A relative of the Mexican species, *C. Schiedeana* Berg and *C. pendula* Berg. The former differs in having much broader leaves and pediceled flowers; the latter in its sericeous buds and shorter petioles. *C. hondurensis* Standl. of Honduras differs in having petioles twice as long or more, and sericeous buds.

MELASTOMACEAE

Conostegia caelestis, sp. nov.—Arbor 7.5-metralis, trunco 10 cm. diam., ramulis gracilibus dense pilis rigidis sordidis patentibus apice minute stellato-penicillatis hispido-hirsutis, pilis minutis sessilibus intermixtis; folia breviter petiolata, petiolo crasso 1-2.5 cm. longo ut ramuli hispido; lamina membranacea, elliptico-oblonga, 9-20 cm. longa, 3.5-7 cm. lata, apice abrupte cuspidato-acuminata, acumine angusto 1-2 cm. longo attenuato, basi acuta vel subobtusa, 5-nervia, nervis exterioribus interdum obscuris, supra viridis, pilis brevibus patentibus setoso-hispida, subtus ad nervos pilis stellatis stipitatis hispida, inter nervos pilis sessilibus stellato-hispidula, nervis transversis elevatis rectis parallelis angulo lato divergentibus; panicula terminalis subdense pauciflora, c. 5 cm. longa et 4.5 cm. lata,

2.5 cm. longe pedunculata, ramis crassis divaricatis dense stellato-hispidis; calyx in alabastro 8 mm. longus, abrupte acuminatus, densissme stellato-hispidus, parte basali in anthesi 4 mm. longa, late campanulata; petala 6-8, late obovata, reflexa, 5-9 mm. longa, denticulata, glabra; antherae 2.5 mm. longae, filamentis glabris.—British Honduras: Big Creek, Mullins River road, alt. 15 m., March 8, 1929, *William A. Schipp* 63 (Herb. Field Mus. No. 588,330, type).

A well-marked species, notable for the abundant pubescence, consisting of long spreading hairs stellate at the apex, with numerous minute sessile stellate hairs intermixed.

Tococa grandifolia, sp. nov.—Frutex 2-3.5 m. altus, pauci-ramosus, ramis crassis densissime setis longis incrassatis patentibus brunnescentibus indutis; folia breviter petiolata, petiolo crasso 2.5-5 cm. longo, dense setoso; lamina membranacea, magna, late elliptica vel rotundato-elliptica, 23-37 cm. longa, 16-23 cm. lata, et ultra, apice rotundata et abrupte cuspidato-caudata, acumine anguste triangulari c. 2 cm. longo attenuato, basi late rotundata, crebre denticulata vel subintegra, supra glauco-viridis, glabra, subtus ad nervos setoso-hispida et sparse stellato-furfuracea, aliter glabra vel glabrata, 5-nervia, nervis exterioribus tenuissimis, 2 interioribus validioribus, costa crassa elevata, nervis secundariis angulo fere recto abeuntibus, rectis parallelis; paniculae dense multiflorae, 7-14 cm. longae, pyramidales, breviter pedunculatae, ramis dense hispidis, floribus sessilibus dense congestis; calyx furfuraceo-puberulus vel glabratus, turbinato-cylindricus, 4-5 mm. longus, breviter 5-lobus, lobis late ovatis obtusis; petala pallide rosea, 3-4 mm. longa, glabra obtusa; antherae 4-5 mm. longae; fructus subglobosus, 4-5 mm. diam., purpureo-ruber, glabratus, obscure costatus, 5-locularis.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 150 m., December 12, 1927, *Paul C. Standley 52870* (Herb. Field Mus. No. 582,919, type). Also *Nos. 54890* and *54556* from the same locality. Along trail west of Tela River, in 1903, *Wilson 227*.

The last specimen cited was determined as *T. platyphylla* Benth., a species described from Colombia and reported by Cogniaux also from Panama. I have seen no authentic Colombian material, but the Honduran plant differs in so many respects from the descriptions given by Bentham and Cogniaux that it does not seem possible that the plants from the two regions can be conspecific. *T. platyphylla* is reported as having leaves only 9-15 cm. wide and merely puberulent beneath on the nerves, and "fere 7-plinervia." The petals also are stated to be 1 cm. long. The plant is described, in addition, as an "herba brevicaulis," a statement certainly not applicable to the Honduran plant.

Miconia habrolepis, sp. nov.—Arbor 9-12-metralis, ramulis crassis subtetragonis et compressis densissime et minute ferrugineo-

lepidotis; folia opposita, breviter petiolata, petiolo crasso 1.5-2.5 cm. longo dense ferrugineo-lepidoto; lamina coriacea, elliptico-oblonga, 12-27 cm. longa, 5-11 cm. lata, apice obtusa vel rotundata et abrupte caudato-cuspidata, acumine angusto saepe fere lineari 1-1.5 cm. longo attenuato, basi saepius acuta vel interdum obtusa vel subrotundata, 3-nervia, supra viridis, glabra, sublucida, nervis subimpressis, subtus ubique densissime et adpresse ferrugineo-lepidota, costa nervisque elevatis, nervulis transversis angulo lato abeuntibus, gracillimis, rectis, parallelis, nervulis ultimis impressis; paniculae terminales pyramidales, 10-20 cm. longae, 7-17 cm. latae, laxe multiflorae, c. 3 cm. longe pedunculatae, ramis crassis divaricatis vel late adscendentibus dense lepidotis, floribus cymosis sessilibus, ramulis saepius elongatis et secundifloris; calyx campanulatus, 2 mm. longus, dense lepidotus, truncatus vel obsolete denticulatus; petala late obovata, alba, reflexa et calycem fere aequantia, glabra; antherae cuneiformes, 1-1.3 mm. longae, apice oblique truncatae et biporosae, exsertae; stylus gracilis, glaber, 3-4 mm. longus; bacca subglobosa, 4 mm. diam., sparse et minute lepidotus vel glabratus; semina pauca (1-5), c. 2 mm. longa, ochracea, laevia, lucida.—Guatemala: Cubilquitz, May, 1913, *H. von Tuerckheim 4118* (Herb. Field Mus. No. 574,716, type); in 1901, alt. 350 m., *Tuerckheim 7866*. Sierra del Mico, between Los Amates and Izabal, Dept. Izabal, alt. 600 m., *Kellerman 7380*. British Honduras: Stann Creek railway, in jungle, March, 1929, *Schipp 61*. Big Creek, alt. 15 m., *Schipp 40*.

The species is easy to recognize because of the dense covering of brownish, closely appressed, stellate scales.

ERICACEAE

Arctostaphylos costaricensis (Small), comb. nov. *Comarostaphylis costaricensis* Small, N. Amer. Fl. 29: 89. 1914.

VERBENACEAE

Stachytarpheta jamaicensis (L.) Vahl, f. **albiflora,** f. nov.—Corolla alba; ceteris formae typicae omnino similis.—Honduras: In sandy thicket along the beach, Tela, Dept. Atlántida, December 28, 1927, *Paul C. Standley 53814* (Herb. Field Mus. No. 583,934, type).

A large patch of this albino form was found in the vicinity of Tela.

SOLANACEAE

Solanum unguis-cati, sp. nov.—Frutex alte scandens, ramis gracilibus teretibus glabris, vetustioribus ochraceis, aculeis 2-4 mm. longis recurvis compressis basi 2-3.5 mm. latis satis dense armatis; folia alterna 8-18 cm. longa, petiolata, pinnatisecta, segmentis 5-14, inferioribus distinctis, superioribus confluentibus, conformibus vel

saepe insigniter inaequalibus, majoribus lanceolatis vel lanceolato-oblongis, 2-8 cm. longis, 1-2 cm. latis, acuminatis vel longe attentuato-acuminatis, supra basin paullo angustatis, integris, membranaceis, marginatis, supra viridibus, ad nervos sparse et minute puberulis vel glabratis, subtus pallidioribus, glabris, secus costam saepe aculeis parvis recurvis armatis, segmentis minoribus inter majora saepe interpositis, 5-10 mm. longis, ellipticis, obtusis, rhachi plerumque marginata, aculeis brevibus recurvis hinc inde instructa; flores in cymis paucifloris graciliter pedunculatis dichotomis dispositi, subsecundi, longipedicellati, pedicellis fere filiformibus c. 14 mm. longis glabris inermibus; calyx 4 mm. longus sparse et minute puberulus vel glabratus, lobis late ovatis apiculatis; corolla caerulea stellato-rotata c. 2.5 cm. lata glabra; antherae 5-6 mm. longae, obtusae, anguste oblongae, 1.2 mm. latae, filamentis gracilibus 1.5 mm. longis. —Honduras: In wet thicket, Lancetilla Valley, near Tela, Dept. Atlántida, alt. 50 m., March 9, 1928, *Paul C. Standley 56726* (Herb. Field Mus. No. 581,029, type). Lancetilla Valley, *Standley 53328*.

Vernacular name, "huevo de gato." Related to *S. Shannoni* Coulter, but in that the inflorescence is much larger and repeatedly branched, the corolla is larger, and the leaf segments are several times larger and broader. The vine is rather common about Lancetilla, but it was just coming into flower at the end of my work there, consequently it was impossible to obtain good specimens. It is a very showy plant when in full blossom because of its large and brilliantly colored corollas.

Lycianthes vulpina, sp. nov.—Frutex scandens interdum 3 m. longus, ramis gracilibus, teretibus, rimosis, brunneis, lucidis, pilis brunneis satis longis apice stellato-ramosis dense indutis; folia plerumque alterna, interdum opposita et inaequalia, foliis paris minoribus ovatis vel rotundatis et 1-2 cm. longis, foliis majoribus 8-12 mm. longe petiolatis, lamina ovata, elliptica vel ovato-oblonga, 5.5-12.5 cm. longa, 3-8 cm. lata, abrupte acuminata vel longiacuminata, acumine angusto attenuato, basi rotundata vel obtusa, membranacea, integra, supra viridi, pilis stellatis stipitatis subferrugineis dense induta, subtus pilis similibus dense tomentosa; flores axillares, solitarii vel fasciculati, pauci, pedicellis 6-15 mm. longis dense stellato-hirsutis; calyx campanulatus 3 mm. longus, truncatus, ubique dense pilis simplicibus pallide ferrugineis dense hirsutis, appendicibus filiformibus 10 hirsutis 8-15 mm. longis onustus, in statu fructifero paullo accrescens; corolla alba 1.5 cm. longa, extus hispida, 5-loba, lobis latis obtusis; antherae inaequales 6-10 mm. longae, anguste oblongae, glabrae, obtusae, filamentis brevibus; bacca aurantiaco-rubra vel alba, globosa, glabra, c. 13 mm. diam., seminibus numerosis. —Honduras: Wet thicket, Lancetilla Valley, Dept. Atlántida, alt. 50 m., January 11, 1928, *Paul C. Standley 54356* (Herb. Field Mus. No. 583,595, type). Lancetilla Valley, *Standley 53285, 53670, 55221, 56550*.

This Honduran plant evidently is closely related to *L Purpusii* (Brandeg.) Bitter, of Mexico, resembling it closely in general appearance. In *L. Purpusii* the pubescence of the upper leaf surface consists of simple hairs, and that of the lower surface of much sparser and very short hairs.

Cyphomandra mollicella, sp. nov.—Frutex dendroideus 2-3-metralis, trunco gracili recto, corona densa lata depressa, heterophyllus; folia inferiora magna longe petiolata, usque ad 40 cm. longa et 30 cm. lata, pinnato-lobata, lobis plerumque 5, ovatis vel fere rotundatis, approximatis, sinubus angustis sejunctis, acutis vel breviter acuminatis, lobo terminali saepe caudato-acuminato; folia superiora minora, late ovata, oblongo-ovata vel rotundato-ovata, 2.5-4 cm. longe petiolata, integra, abrupte breviterque acuminata vel longiacuminata, basi saepe inaequalia, vulgo breviter vel profundius cordata, subcoriacea, supra viridia, glabra vel ad costam minute puberula, subtus paullo pallidiora, ubique minute velutino-puberula vel serius glabrata; racemi extra-axillares 2.5-4 cm. longe pedunculati, secundi, recurvi, pauciflori, pedicellis gracilibus 1.5-3 cm. longis dense et minute pilosulis rectis; calyx late campanulatus, minute puberulus, 3 mm. longus, 5 mm. latus. subtruncatus vel obsolete lobatus; corolla viridis, 11-14 mm. longa, fere ad basin 5-fida, laciniis lineari-lanceolatis, versus apicem sensim attenuatis, extus minute pilosulis, intus sparsius pilosulis; antherae 7-8 mm. longae, anguste oblongae, superne paullo attenuatae, minute puberulae, filamentis brevibus.—Honduras: In wooded swamp near Tela, Dept. Atlántida, at sea level, January 18, 1928, *Paul C. Standley 54720* (Herb. Field Mus. No. 583,731, type). Lancetilla Valley, alt. 50 m., *Standley 54441, 56549, 56833*. Panama: Progreso, Chiriquí, July-August, 1927, *Cooper & Slater 181* (Yale No. 10534).

In the Flora of the Panama Canal Zone (Contr. U. S. Nat. Herb. 27: 330. 1928) this plant is listed as "*Cyphomandra heterophylla* Donn. Smith." I can not determine, without consulting material in the National Herbarium, how this name originated, but I presume it is a herbarium name, which was assumed, but erroneously, to have been published. I can not find that this name has ever been published, although there is an earlier species described by another author under the same specific name. The latter has nothing to do with the Central American plant.

Cyphomandra mollicella is rather frequent from Panama to Guatemala. It is a striking plant, resembling a small tree when it has an opportunity to develop properly, with a smooth clean trunk and a neat spreading crown. Where I have seen it growing it appeared to be a large herb rather than a shrub, and I believe this is really the case, although Cooper and Slater report that in

Panama it attains a height of 7.5 meters, with a trunk 10 cm. in diameter. The Panama name is given as "monca prieta."

Melananthus guatemalensis (Benth.) Solereder, Ber. Deutsch. Bot. Gesell. 9: Generalversamml. 84. 1891. *Microschwenkia guatemalensis* Benth. ex Hemsl. Biol. Centr. Amer. Bot. 2: 438. *pl. 57, A.* 1882.

The type of this curious little plant was collected on the Llano de Jutiapa, Guatemala, by Bernoulli, No. 716, and apparently nothing is known of it except what is contained in the original description. The following new collections and extension of range may now be reported for it: Honduras: In wet field, near Siguatepeque, Dept. Comayagua, alt. 1100 m., February, 1928, *Standley 56286.* In open pine forest near Siguatepeque, *Standley 55855.* The plant is rare in this locality, at least during the dry season. Probably it is plentiful enough at certain seasons, but it is very hard to find because the plants are small, 20 cm. high or less, with very slender, nearly leafless branches and minute flowers.

In the Solanaceae the plant is somewhat anomalous because of its peculiar fruit, and its family position has been debated, but Solereder refers it to the Solanaceae, where Bentham placed it originally. Solereder's long and interesting paper, in which two new specific combinations are made, seems to have been overlooked by the compilers of the Index Kewensis.

The general appearance of this herb is so much like that of *Schwenkia* that it must have a close relationship to that genus.

BIGNONIACEAE

Adenocalymna verrucosum, sp. nov.—Frutex alte scandens, ramulis gracilibus, subteretibus, striatis, ochraceis vel brunnescentibus, sparse elevato-lenticellatis, glabris, internodiis elongatis; folia opposita, petiolo gracili 1.5-2.5 cm. longo minute puberulo vel fere glabro, petiolulis aequilongis gracilibus subteretibus glabris vel sparsissime minuteque puberulis; foliola 2, elliptica vel oblongo-elliptica, 5-11.5 cm. longa, 2.5-6 cm. lata, subcoriacea, acuta vel abrupte acuta, interdum subacuta, basi obtusa vel rotundata, integra, supra laete viridia, sublucida, glabra, nervulis prominulis pallidis, subtus fere concoloria, secus costam praesertim in axillis barbata, aliter glabra, basi 3-nervia, costa gracili elevata, nervis lateralibus utroque latere 3-4, angulo acuto adscendentibus, elevatis, arcuatis, remote a margine conjunctis, nervulis prominulis arctissime reticulatis; flores ut videtur cymas paucifloras terminales efformantes, pedicellis fructiferis 8-15 mm. longis incrassatis; capsula juvenilis late linearis, 4-6

cm. longa, 7-9 mm. lata, paullo compressa, apice obtusa vel rotundata, ubique denssissime longeque tuberculata, glabra.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 100 m., January 21, 1928, *Paul C. Standley 54891* (Herb. Field Mus. No. 584,059, type). Also *No. 53660* from the same locality.

In the forest near Lancetilla I found upon the ground weathered pods which probably belong to this same species. They are strongly compressed, about 2.5 cm. wide, and densely covered with tubercles, some of which are much elongate.

The generic position of this vine is uncertain because of lack of flowers, but I have placed it in *Adenocalymna* because I do not find tuberculate pods attributed to any other genus to which the plant might be referred.

ACANTHACEAE

Dyschoriste oaxacensis Kobuski.—This genus is not reported from Central America in Kobuski's Monograph of the American Species of Dyschoriste (Ann. Mo. Bot. Gard. 15: 9-90. 1928), but the following Honduras collections are referable to *D. oaxacensis*: Moist field near Siguatepeque, Dept. Comayagua, alt. 1,100 m., *Standley 56310*; in pine forest, *Standley 56269*; dry open bank, *Standley 56089*. The plant is frequent in the vicinity of Siguatepeque, and is rather conspicuous when in flower because of its purple corollas.

Aphelandra aurantiaca (Scheidw.) Lindl., var. **stenophylla,** var. nov.—A forma typica differt foliis breviter petiolatis linearibus vel lanceolato-linearibus, 7-26 cm. longis et 1-3 cm. latis, longissime attenuatis, basin versus longe attenuatis, margine saepe undulato.—Honduras: In wet forest, Lancetilla Valley near Tela, Dept. Atlántida, alt. 150 m., December 22, 1927, *Paul C. Standley 53487* (Herb. Field Mus. No. 583,188, type). Also *Nos. 52635* and *53875* from the same locality.

This form grows frequently with the typical one, which is common on the hills above Lancetilla. The leaves are so different from those of the type that at first glance one would assume that two species were represented, but apparently the two forms differ only in the shape of their leaves. I did not find any intermediate forms in the various localities where the two were growing together.

RUBIACEAE

Arcytophyllum ciliolatum, sp. nov.—Frutex erectus 15-35 cm. altus dense ramosus, ramis lateralibus brevibus, crassis, pallide

brunneis, bifariam puberulis, plerumque dense foliatis, internodiis interdum elongatis; stipulae late triangulares 1.5-2 mm. longae, acutae vel obtusae, puberulae, integrae vel obsolete denticulatae; folia sessilia vel subsessilia, oblonga vel lanceolato-oblonga, 5-8 mm. longa, 2.2-3.3 mm. lata, acuta, mutica, coriacea, glabra, 1-nervia, costa supra late sulcata subtus prominula, marginibus planis dense minuteque ciliolatis; flores terminales sessiles plerumque solitarii; hypanthium late obovoideum glabrum; calycis lobi 4 e basi triangulari subulato-attenuati, 2 mm. longi, scaberulo-ciliolati; corolla extus glabra, tubo crasso 4 mm. longo, lobis 4 lanceolato-oblongis 4 mm. longis acuminatis, intus brevissime denseque albido-villosis; antherae exsertae lineari-oblongae acutae, fere 2 mm. longae; capsula subglobosa 3 mm. longa costata.—Peru: Mountains near Tayabamba, Prov. Pataz, Dept. Libertad, alt. 3,900 m., July, 1914, *A. Weberbauer 7023* (Herb. Field Mus. No. 548,977, type).

Related to *A. cephalanthum* (Wedd.) Standl., of Colombia, which has larger leaves, acuminate stipules, and capitate inflorescence.

Arcytophyllum virgatum, sp. nov.—Frutex erectus 25 cm. altus et ultra multiramosus, ramis erectis gracilibus 1-2.5 mm. crassis rigidis angulatis ochraceis minute puberulis, internodiis plerumque 4-6 mm. longis; stipulae 2-2.5 mm. longae, pallidae, in vaginam longe connatae, parte libera ovata glabra vel minute puberula obtusa vel acuta cuspidata-acuminata et saepius paucidentata; folia subsessilia, opposita et in axillis foliorum densissime fasciculata, anguste oblonga, obtusa, crassa, glabra, enervia, lucida, adscendentia vel erecta; inflorescentia terminalis, cymoso-capitata, densissime multiflora, 6-17 mm. lata, breviter pedunculata, floribus sessilibus dense congestis, bracteis 1-1.5 mm. longis, plerumque laciniatis; hypanthium turbinatum 1 mm. longum glabrum; calyx 4-partitus, laciniis anguste triangularibus 1.5 mm. longis erectis glabris acuminatis; corolla extus glabra, tubo 4 mm. longo superne dilatato fauce glabro, lobis 4 late ovatis subreflexis 1-1.5 mm. longis obtusis intus glabris; antherae subexsertae oblongae obtusae 0.8 mm. longae.—Peru: Province of Chachapoyas, *Mathews 2123* (Herb. Kew., type).

A plant of distinctive appearance because of the very long and slender branches densely clothed with clusters of minute leaves. It is probably related to *A. parvifolium* Krause, of Peru, but that species is described as having still smaller leaves, entire stipules, and few-flowered cymes.

Sickingia Maxonii Standl. Trop. Woods 14: 30. 1928. *Genipa Maxonii* Standl. Journ. Washington Acad. Sci. 8: 642. 1918.

This species, known heretofore only from Panama, may now be reported from Costa Rica: Monteverde, April, 1928, *H. E. Stork 1677*. The vernacular name is given as "inkwood."

Macrocnemum pilosinervium, sp. nov.—Ramuli validi, obtuse tetragoni vel subcompressi, dense adpresso-pilosi, internodiis brevibis; stipulae magnae tenues glabratae caducae, perfectae non visae; petiolus crassus 1-1.7 cm. longus, dense adpresso-pilosus; lamina papyracea, obovata vel oblongo-obovata, 15-22 cm. longa, 7-10.5 cm. lata, acuta, apice obtuso, basi acuta vel longe angustata, supra fusca, glabra, nervis manifestis sed non elevatis, subtus pallidior, ad costam nervosque densissime pilosula, aliter sparse minuteque pilosula, costa valida elevata, nervis lateralibus utroque latere c. 12, angulo acuto adscendentibus, gracilibus, prominentibus, leviter arcuatis, prope marginem conjunctis, nervulis inconspicuis laxe reticulatis; inflorescentiae axillares cymoso-paniculatae, 11-15 cm. longe pedunculatae, basi foliis duobus 4-6 cm. longis fulcratae, 6-10 cm. longae et latae, dense multiflorae, ramosae, ramulis adpresso-pilosulis; bracteae vulgo parvae et lanceolato-subulatae; flores sessiles vel breviter pedicellati, conferti; hypanthium cylindricum 3-4 mm. longum, sparse puberulum vel fere glabrum; calyx 1 mm. longus 5-dentatus, dentibus late triangularibus acuminatis glabris; corolla extus glabra, tubo 1 cm. longo 3 mm. lato, lobis rotundatis 2-2.5 mm. longis, intus minute papillosis; fructus immaturus 8 mm. longus.—Peru: Without locality, in 1862, *Mathews* (Herb. N. Y. Bot. Gard., type).

The species of *Macrocnemum* are closely related and poorly defined, and the amount of material available is too small to enable one to estimate the value of the supposedly differential characters. The present plant, although not exhibiting any conspicuously outstanding characters, can not be referred satisfactorily to any of the species recorded from Peru.

Pentagonia peruviana, sp. nov.—"Frutex volubilis caudice brachiali," ramulis crassis obtuse tetragonis sparse ad nodos strigillosis; stipulae triangulari-oblongae acuminatae 5 cm. longae, extus dense sericeo-strigillosae, intus glabrae; folia breviter petiolata opposita, petiolo gracili 3.5-5 cm. longo subtereti dense sericeo-strigilloso; lamina chartacea, obovato-elliptica, 32-45 cm. longa, 16-19 cm. lata, acuta, basi acuta vel subacuminata, supra glabra, nervis prominulis, subtus pallida, ad nervos dense strigosa, aliter sparse et minute strigillosa, inter nervulos pulchre striolata, costa gracili elevatis, nervis lateralibus utroque latere c. 15, gracilibus, prominentibus, rectis, angulo acuto adscendentibus, prope marginem 1-2-dichotoma, ramis in marginem desinentibus, nervulis vix prominulis; flores in axillis foliorum fasciculati, breviter pedicellati; calyx ante anthesin clausus acutus, in anthesi uno latere fissus, spathaceus, 2 cm. longus, 5-6 mm. latus, sparse adpresso-pilosus vel glabratus; corolla (perfecte evoluta non visa) 3 cm. longa et ultra, extus glabra vel in alabastro apice albido-strigosa, flavescens, tubo crasso superne paullo dilatato, lobis ovato-oblongis obtusis; stamina paullo supra basin tubi inserta, filamentis prope basin dense albido-barbatis, antheris oblongis 4 mm.

longis.—Peru: Banks of the Río Pastasa, April, 1857, *R. Spruce 4968* (Herb. Kew., type).

All the other species of *Pentagonia*, several of which I have myself seen growing in Central America, are strictly erect shrubs or small trees, usually with stout, simple stems. It seems improbable, therefore, that Spruce is correct in describing the plant as a scandent shrub, especially since this habit of growth is very rare in the whole family Rubiaceae, although not unknown. *Pentagonia peruviana* is easily recognized by the spathaceous calyx.

Randia aurantiaca Standl., sp. nov.—Frutex inermis 1-4-metralis, ramulis gracilibus vel crassiusculis, teretibus, fusco-brunneis, novellis interdum hirtellis, internodiis brevibus vel elongatis; stipulae 5-7 mm. longae, hirtellae, erectae, e basi triangulari subulato-acuminatae; petioli 5-18 mm. longi, graciles, dense hirtelli; limbus oblongo-ellipticus vel obovato-ellipticus, 4-13 cm. longus, 2.5-6.5 cm. latus, apice obtusus vel plerumque abrupte breviterique acuminatus, basi acutus vel rarius obtusus, membranaceus, supra sparse vel dense breviterque pilosus vel puberulus, subtus dense griseo-tomentosus, costa et nervis gracilibus, prominentibus, nervis lateralibus utroque latere c. 9, angulo acuto adscendentibus, leviter arcuatis, prope marginem laxe conjunctis; flores hermaphroditi, ad apicem ramulorum 2-3 vel interdum solitarii, ad 7 mm. longe pedicellati; hypanthium anguste clavatum, 10-13 mm. longum, 2-2.5 mm. latum, dense breviterque velutino-pilosum; calycis limbus late campanulatus, c. 4 mm. longus et 6-8 mm. latus, dense pilosus, lobis 5, lineari-subulatis, 4-5 mm. longis, pilosulis; corolla aurantiaca, in alabastro longiacuminata, extus dense griseo-sericea, tubo 2 cm. longo, basi 5-6 mm. lato, apice contracto, lobis ovato-oblongis, longiacuminatis, 2.5 cm. longis, extus versus basin dense sericeis, intus glabris; antherae lineares, 5 mm. longae, semiexsertae; bacca immatura ellipsoidea, 1.5 cm. longa, costata, puberula, calyce persistente coronata. —Peru: Mountains east of Hacienda Chicama, Prov. Tumbez, Dept. Tumbez, in deciduous brushwood, alt. 600-700 m., February 19-24, 1927, *A. Weberbauer 7665* (Herb. Field Mus. No. 571,808, type). Ecuador: In Peninsula Morro ad Playas, April, 1928, *Luis Mille 190* (U. S.).

The plant is not closely related to any of the Randias described from Peru and Ecuador, and is noteworthy because of the orange or orange-red color of the corolla. It could be referred equally well, perhaps, to the genus *Sphinctanthus*, a group which does not seem to be separated by any constant characters from the genus *Randia*.

Randia Tessmannii, sp. nov.—Ramuli subteretes graciles glabri minutissime granulosi; stipulae oblongo-ovatae, 3.5 cm. longae, 1.5 cm. latae, apice acutae vel acuminatae, et longe filiformi-productae,

basi connatae, viridescentes, tenues, crebrinerviae, extus minute puberulae vel glabratae, persistentes, erectae, petiolis multo longiores; folia opposita, petiolo crassiusculo 7-10 mm. longo glabro; lamina oblonga vel lanceolato-oblonga, 14-18 cm. longa, 4-7 cm. lata, acuminata vel longe acuminata, acumine angusto acute attenuato, basi acuta vel obtusa, crasse membranacea vel subcoriacea, supra fusca, lucida, glabra, nervis et costa prominulis, subtus olivaceo-viridis, in axillis venarum brevissime barbata, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 11, gracillimis, prominentibus, angulo acuto adscendentibus, subarcuatis, prope marginem conjunctis, nervulis prominulis reticulatis; flores masculi terminales, solitarii, 5 mm. longe pedicellati, bracteis magnis stipuliformibus persistentibus fulcratis, bracteis calyce duplo longioribus; hypanthium nullum, calyce tubuloso, 1 cm. longo, 5 mm. lato, glabro, 5-dentato dentibus late triangularibus 2-2.5 mm. longis acutis, dentibus minoribus interpositis; corolla magna speciosa, tubo 4 cm. longo, 5-6 mm. lato, superne vix ampliato, extus dense et minute sericeo, intus in fauce dense albo-sericeo, inferne glabro, lobis 6-7, patentibus, oblongis vel obovatis, 5-5.5 cm. longis, 1.5-3 cm. latis, obtusis et abrupte acuminato-apiculatis, extus minutissime tomentulosis vel fere glabris, intus minute tomentulosis et sericeis; antherae lineares 2.3 mm. longae, 2 cm. supra basin tubi insertae, apice obtusae; stylus c. 1 cm. longe exsertus.—Peru: Stromgebiet des Ucayali von 10° S. bis zur Mündung, in 1923, *G. Tessmann 3246* (Herb. Stockholm, type).

The species is an exceptionally well-marked one because of the very large corollas with their unusual number of lobes. The plant does not agree too well with any of the genera of the tribe Gardenieae, but it fits better in Randia (including Basanacantha) than elsewhere. It is quite as deserving of generic rank as most of the genera of this group, but the genera of this tribe of the Rubiaceae are so poorly marked that it certainly does not seem advisable to make any additions to their number, except upon unimpeachable characters.

Hoffmannia Mathewsii, sp. nov.—Frutex ramosus, ramulis validis subteretibus dense ferrugineo-tomentosis, internodiis elongatis; folia ternata, petiolo gracili 4-6 mm. longo dense ferrugineo-tomentoso; lamina membranacea, elliptica vel elliptico-ovata, 3.5-5 cm. longa, 2-2.5 cm. lata, longiacuminata, acumine angusto attenuato-acuto, basin versus sensim angustata, supra viridis, glabra, rhaphidibus minutis pallidis dense conspersa, subtus praecipue ad nervos dense ferrugineo-villosula, costa valida elevata, nervis lateralibus utroque latere c. 12, prominentibus, gracilibus, angulo lato adscendentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis, transversis, subparallelis; cymae axillares, laxe pauciflorae, 8-15 mm. longe pedunculatae, pedunculo dense ferrugineo-tomentoso, pedicellis 3-6 mm. longis gracilibus; hypanthium turbinatum vel anguste turbinatum, 4-5 mm. longum, ferrugineo-tomentosum; calyx 4-partitus, laciniis

linearibus basi paullo dilatatis 4-6 mm. longis, versus apicem sensim attenuatis, villosulo-puberulis; corolla 10-11 mm. longa in alabastro acutiuscula, extus sparse ferrugineo-villosula, lobis 4 ovato-oblongis obtusis tubo duplo brevioribus; antherae semiexsertae oblongae obtusae.—Peru: Chachapoyas, *Mathews* (Herb. Kew., type).

Among the Peruvian species this is easy to recognize because of the very long and narrow calyx segments.

Hoffmannia hondurensis, sp. nov.—Frutex gracilis 1-2-metralis, sparse ramosus, ramis teretibus, viridibus, glabris, dense et minute pallido-lenticellatis, internodiis brevibus vel elongatis; stipulae caducae, non visae; folia opposita, petiolo crassiusculo 0.5-2 cm. longo, lamina papyracea oblanceolato-oblonga vel oblongo-obovata, 13-26 cm. longa, 4-8.5 cm. lata, abrupte acuminata vel longiacuminata, acumine angusto attenuato, basin versus longe vel longissime attenuata, glabra, fere concolor, nervis supra non elevatis, costa subtus prominente crassiuscula, nervis lateralibus utroque latere c. 14, angulo lato adscendentibus, gracilibus, prominulis, arcuatis, prope marginem conjunctis, nervulis inconspicuis laxe reticulatis, pagina superiore saepe rhaphidibus numerosis minutis brevibus notata; inflorescentiae paucae, ad axillas solitariae vel fasciculatae, plerumque 2-4-florae, glabrae, pedicellis gracilibus 5-8 mm. longis; calyx 0.7 mm. longus brevissime dentatus, dentibus triangularibus acutis; fructus albus, carnosus, subglobosus, 4-5 mm. longus, glaber, seminibus numerosissimis minutis brunneis grosse foveolatis.—Honduras: In wet forest on the hills above Lancetilla Valley, Dept. Atlántida, alt. 200-500 meters, December 12, 1927, *Paul C. Standley 52905* (Herb. Field Mus. No. 582,885, type). Lancetilla Valley, *Standley 52768, 53351, 53871, 52645.*

Although this shrub is common in the Lancetilla Valley, it was not in flower during the winter, and I was able to obtain only fruiting specimens. Like most other Hoffmannias, it has no conspicuous characters, but it does not agree in all respects with any of the numerous species now known from Central America.

Anisomeris peruviana, sp. nov.—Ramuli graciles teretes cinerei, novellis sparse et minute adpresso-pilosulis vel fere glabris; stipulae 1.5-2 mm. longae, deltoideae, subulato-acuminatae, persistentes, erectae; folia opposita, petiolo 3-6 mm. longo valido supra sulcato glabro; lamina elliptica vel oblongo-elliptica, 2-7 cm longa, 1.5-3.5 cm. lata, obtusa vel subacuta, basi acuta, subcoriacea, supra fusca, glabra, nervis non elevatis, subtus brunneo-fusca, ad axillas nervorum foveolata et barbata, aliter glabra, costa gracili elevata, nervis lateralibus utroque latere c. 7, prominentibus, angulo acuto adscendentibus, subarcuatis, remote a margine conjunctis, nervulis obsoletis; inflorescentiae axillares, solitariae vel fasciculatae, 1-2 cm. longe pedunculatae, umbelliformes, dense pauciflorae, pedunculo gracili

glabro, floribus sessilibus vel breviter pedicellatis; hypanthium turbinatum, 1.5 mm. longum, glabrum vel hinc inde strigillosum; calyx 1 mm. longus, glaber vel glabratus, lobis brevissimis rotundatis; corolla 18 mm. longa, tubo gracillimo, inferne glabro, superne parum ampliato et sparse strigilloso, lobis 4, ovali-oblongis, 2-2.5. mm. longis, obtusis, intus glabris, extus dense strigillosis.—Peru: Stromgebiet des Ucayali von 10° S. bis zur Mündung, in 1923, *G. Tessmann 3481* (Herb. Stockholm, type).

A relative of *A. albicaulis* (Rusby) Standl. (*Guettarda albicaulis* Rusby), a Bolivian species. The latter differs in its narrow calyx lobes, densely pubescent corolla, and the spreading pubescence of the peduncles.

Anisomeris angustifolia (Benth.), comb. nov. *Chomelia angustifolia* Benth. in Hook. Journ. Bot. 3: 235. 1841.

Coussarea auriculata, sp. nov.—Ramuli crassi, subteretes, ochracei, glabri, internodiis elongatis; stipulae latissime triangulares, 2-3.5 mm. longae, obtusae vel fere truncatae, persistentes; folia subsessilia, petiolo vix 1-2 mm. longo; lamina late elliptica vel elliptico-obovata, 11-19 cm. longa, 4.5-13 cm. lata, asymmetrica, abrupte sensimve acuminata, interdum caudato-acuminata, acumine angusto obtuso, basin versus sensim angustata vel interdum abrupte contracta et longe decurrens, basi angusta cordata, auriculis rotundatis, glabra, subcoriacea, supra laete viridis, nervis paullo prominentibus, subtus pallidior, costa valida elevata, nervis lateralibus utroque latere c. 10, prominentibus, angulo lato vel acuto adscendentibus, arcuatis, prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis thyrsoideo-paniculata, 1-2.5 cm. longe pedunculata, c. 7 cm. longa et 6-7 cm. lata, dense multiflora, glabra, floribus cymosis, cymis multifloris pedunculatis, ramis inferioribus paniculae oppositis vel verticillatis crassiusculis, pedicellis plerumque 1-2 mm. longis; bracteae obsoletae; hypanthium obovoideum laeve 1.2 mm. longum; calyx campanulatus 0.8 mm. longus truncatus; corolla hypocrateriformis, tubo gracili, 7 mm. longo, 1 mm. crasso, superne vix ampliato, lobis 4, patentibus, oblongo-linearibus, 4 mm. longis, obtusis; antherae semiexsertae.—Peru: Stromgebiet des Marañón, Santiago-Mündung am Pongo de Manseriche, ca. 77° 30′ West, in 1924, *G. Tessmann 4647* (Herb. Stockholm, type).

The species is a well-marked one, easy of recognition because of the sessile leaves with definite auricles at the base.

Coussarea longiacuminata, sp. nov.—Frutex vel arbor parva omnino glabra, ramulis gracilibus subteretibus fuscis, internodiis 2-3.5 cm. longis; stipulae in vaginam truncatam 2-2.5 mm. longam connatae, persistentes; folia opposita, petiolo gracili 6-9 mm. longo; lamina anguste elliptico-oblonga, 7-9.5 cm. longa, 2-3 cm. lata, longe

caudato-acuminata, acumine oblongo-lineari obtuso 1-1.5 cm. longo, basi acuta, decurrens, subcoriacea, marginata, supra viridis, costa nervisque vix prominulis, lucida, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 12, angulo lato divergentibus, fere rectis, marginem attingentibus, nervis prominulis laxe reticulatis; inflorescentiae terminales et ex axillis supremis, sessiles vel pedunculatae, e basi trichotomae, laxe pauciflorae, foliis breviores, cymoso-corymbosae, cymulis plerumque trifloris, pedicellis c. 3 mm. longis rectis; hypanthium 1 mm. longum; calyx 1-1.3 mm. longus 4-denticulatus, dentibus remotis angustis acutis; corolla hypocraterimorpha, tubo gracili 9-10 mm. longo 1.4 mm. lato, lobis 4 anguste oblongis obtusis 4-5 mm. longis; antherae inclusae.—Peru: Above Tabaconas, Prov. Jaen, Dept. Cajamarca, alt. 2,400-2,500 m., April, 1912, *A. Weberbauer 6117* (Herb. Field Mus. No. 548,690, type).

Coussarea tenuiflora Standl., sp. nov.—Fere glabra; ramuli crassi, tetragoni, 6 mm. crassi; stipulae deciduae, non visae; folia opposita, petiolis crassiusculis, 2-3 cm. longis, subteretibus; limbus ovato-ellipticus, 11.5-28 cm. longus, 6-14.5 cm. latus, abrupte caudato-acuminatus, acumine e basi triangulari longe attenuato, obtuso, 2 cm. longo, basi late obtusus vel acutus, crasse membranaceus, concolor, marginatus, supra ad costam puberulus, aliter glaber, costa et nervis lateralibus utrinque prominentibus, gracilibus, nervis lateralibus utroque latere c. 12, angulo lato adscendentibus, subarcuatis, prope marginem irregulariter arcuato-conjunctis, nervulis prominentibus, reticulatis; inflorescentiae terminales, cymoso-corymbosae, subsessiles, trichotomae, 4.5 cm. longae et latae, dense multiflorae, floribus sessilibus; hypanthium obovoideum, fere 2 mm. longum, in siccitate obtuse costatum; calyx 1.6 mm. longus, hypanthio latior, truncatus; corollae tubus 25-28 mm. longus, gracilis, superne vix dilatatus, fauce fere 2 mm. latus, lobis oblongis, obtusis, 8 mm. longis.—Peru: Near Tarapoto, 1855-56, *R. Spruce 4422* (Gray Herb., type; duplicate in herb. Kew.).

In general appearance this plant suggests *C. hydrangeaefolia* (Benth.) Benth. & Hook., but in that the corolla is much smaller.

Faramea stenura, sp. nov.—Frutex vel arbor parva 2.5-6 m. alta omnino glabra, ramulis gracilibus viridibus subteretibus, internodiis elongatis; stipulae 6-13 mm. longae, deciduae, in vaginam connatae, lobis longe subulato-attenuatis; folia opposita, petiolo gracili 7-12 mm. longo supra sulcato; lamina membranacea, anguste oblonga, interdum superne paullo latior et versus basin subangustata, 11-13 cm. longa, 3-5 cm. lata, basi acuta, apice abrupte contracta et in caudam e basi triangulari linearem longiattenuatam 1.5-2.5 cm. longam desinens, supra viridis, costa prominente, nervis prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 12, gracillimis, prominentibus, angulo fere recto divergentibus, fere rectis, remote a margine conjunctis, nervis

transversis parallelis interpositis et nervulis prominulis laxe reticulatis conjunctis; inflorescentiae terminales sessiles cymoso-corymbosae, c. 8 cm. longae et 11 cm. latae, dense multiflorae, bracteis inconspicuis, triangularibus vel lanceolato-subulatis, 1-2 mm. longis, pedicellis 2-6 mm. longis, validis, superne paullo incrassatis; hypanthium obovoideum, 1-1.5 mm. longum; calyx cupularis c. 1 mm. longus, 4-dentatus, dentibus inaequalibus, triangularibus vel lanceolatis, attenuato-acuminatis; corolla caerulea, tubo gracili, 7-8 mm. longo, 1.5 mm. lato, lobis 4 elliptico-oblongis, 5 mm. longis, patentibus, obtusis; fructus viridis, 13-15 mm. latus, 6-7 mm. altus, 7 mm. crassus, fere laevis; semen 1 cm. longum, facie inferiore profunde sulcatum.—Honduras: In wet forest near the summit of the mountains above Lancetilla Valley, Dept. Atlántida, alt. 600 meters, March 13, 1928, *Paul C. Standley 56743* (Herb. Field Mus. No. 581,582, type). Lancetilla Valley, *Standley 52896, 53126, 53190, 56886.*

Among the Central American Farameas this is well marked by the handsome blue flowers and the narrow leaves with very long, tail-like acuminations.

Faramea talamancarum, sp. nov.—Omnino glabra; ramuli graciles, virides, subteretes; stipulae 8-9 mm. longae, persistentes, in vaginam angustam viridem connatae, lobis apice obtusis et seta 3 mm. longa terminatis; folia opposita, petiolo gracili 5-7 mm. longo supra late sulcato; lamina membranacea, oblonga vel anguste oblonga, 11-16 cm. longa, 3.5-5 cm. lata, basi acuta, apice obtusa vel subrotundata et abrupte in cuspidem c. 1 cm. longam obtusam angustam contracta, supra viridis, costa prominente, nervis prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 11, prominentibus, gracillimis, angulo fere recto divergentibus, fere rectis, remote a margine conjunctis, nervis transversis parallelis interpositis et nervulis obscuris laxe reticulatis connexis; inflorescentiae terminales 3.5-6 cm. longe pedunculatae, cymoso-corymbosae, laxe multiflorae, 6-7 cm. longae et 10 cm. latae, bracteis minutis et inconspicuis, pedicellis gracilibus plerumque 8-10 mm. longis; hypanthium obovoideum 1 mm. longum; calyx 0.4-0. 6mm. longus, truncatus, subinteger vel remote 4-denticulatus, dentibus triangularibus vel subulatis; corolla ut videtur caerulea, tubo gracili, 10-12 mm. longo, 1 mm. lato, lobis 4 elliptico-oblongis, 5-7 mm. longis, obtusis vel acutiusculis.—Panama: Talamanca Valley, February 3, 1921, *M. A. Carleton 135* (Herb. Field Mus. No. 578,962, type). Changuinola Valley, 1923, *V. C. Dunlap 135.*

Closely related to *F. stenura* Standl., but differing in the short acuminations of the leaves, the persistent stipules, the long pedicels, and the minute calyx.

Faramea phyllonomoides, sp. nov.—Frutex vel arbor parva omnino glabra, ramulis gracilibus subteretibus fuscis, internodiis

brevibus; stipulae deciduae, late ovatae, connatae, in aristam apicalem 2 mm. longam desinentes; folia opposita, petiolo 2-4 mm. longo supra late sulcato; lamina anguste elliptico-oblonga vel lanceolato-oblonga, 6-10.5 cm. longa, 1.7-3.8 cm. lata, abrupte caudato-acuminata, acumine lineari 1-1.5 cm. longo obtuso, basi acuta vel obtusa, crasse papyracea, lucida, supra viridis, costa nervisque prominulis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 12, angulo recto divergentibus, gracillimis, prominulis, fere rectis, remote a margine conjunctis, nervulis prominulis laxe reticulatis, margine revoluto; inflorescentia terminalis sessilis vel ex axillis supremis, basi trichotoma, cymoso-paniculata, laxe pauciflora, floribus saepe subumbellatis, pedicellis rectis 2-6 mm. longis; bracteae minutae triangulares; hypanthium 1.5 mm. longum; calyx 1 mm. longus 4-lobus, lobis remotis triangularibus subulato-acuminatis; corolla in alabastro acutiuscula.—Peru: Chanchamayo Valley, Dept Junín, alt. 1,500 m., September, 1924-27, *Carlos Schunke 277* (Herb. Field Mus. No. 571,333, type), *439*.

Apparently related to *F. maynensis* Spruce, but differing in the narrow subulate-acuminate calyx lobes. Neither of the collections, unfortunately, has either developed corollas or fruits.

Rudgea Sprucei, sp. nov.—Arbor 6-metralis ramosa, ramulis crassis subcompressis glabris; stipulae 5-6 mm. longae, late ovatae, obtusae, glabrae, in margine dense aculeoligerae, aculeolis albidis; folia breviter petiolata opposita, petiolo crasso 12-17 mm. longo supra late sulcato glabro; lamina crasse membranacea, oblongo-obovata, obovata vel rarius late oblonga, c. 18 cm. longa et 8-9 cm. lata, apice obtusa vel rotundata et breviter atque abrupte acuminata, acumine obtuso, basin versus angustata, interdum abrupte contracta et decurrens, utrinque glabra, supra viridis, costa impressa, nervis non elevatis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere c. 8, prominentibus, gracilibus, angulo lato adscendentibus, inaequalibus, prope marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis 6-9 mm. longe pedunculata, cymoso-capitata, dense pauciflora, floribus sessilibus, bracteis inconspicuis; hypanthium latissime turbinatum c. 1.5 mm. longum glabrum; calyx 1.5 mm. longus 5-lobus, lobis anguste triangularibus acutis ciliatis remotis; corolla alba, extus glabra, 17 mm. longa, coriacea, tubo crasso obconico basi 3 mm. lato superne sensim dilatato et ore 5 mm. lato, lobis 5 oblongis obtusis tubo subaequalibus; stamina 5 mm. supra basin tubi inserta, filamentis gracilibus prope basin dense albido-villosulis, antheris oblongis exsertis 2.5 mm. longis; drupa ovato-globosa, coccinea, carnosa, usque ad 3.5 cm. diam., basi et apice depressa, glabra.—Peru: In sylvis excelsis montis Guayrapurina, August, 1855, *R. Spruce 3995* (Herb. Kew., type).

Spruce 4056 from Tarapoto probably is referable to the same species.

Cephaelis dolichophylla, sp. nov.—Ramuli crassi glabri; stipulae persistentes, erectae, crassae, ovato-triangulares, acuminatae, 18 mm. longae, 11 mm. latae, glabrae; folia breviter petiolata, opposita, petiolo crasso 2-2.5 cm. longo glabro; lamina chartacea, oblanceolato-oblonga vel anguste oblongo-lanceolata, 22-29 cm. longa, 4.5-10 cm. lata, acuta vel sensim longiacuminata, basin versus longe attenuata, utrinque glabra, supra griseo-viridis, nervis non elevatis, sublucida, subtus pallida, minute albido-puncticulata, brunnescens, costa gracili elevata, nervis lateralibus utroque latere c. 12, angulo acuto adscendentibus, prominentibus, subarcuatis, marginem attingentibus, nervulis obsoletis; inflorescentia terminalis capitata 12 cm. longe pedunculata, pedunculo recto valido glabro, capitulo multifloro denso, floribus sessilibus dense congestis; bracteae exteriores late ovatae, 3-4 cm. longae, 2.5 cm latae, breviter connatae, acutae, rigidae, glabrae, bracteis interioribus angustioribus, intimis spathulatis longe petiolatis c. 5 mm. latis acutis; fructus subglobosus vel ovalis, 5-7 mm. longus, glaber, obscure costulatus; calyx ad apicem fructus persistens, annuliformis, truncatus.—Peru: Prope Yurimaguas ad flumen Huallaga, May, 1855, *R. Spruce 3876* (Herb. Kew., type).

Well marked by the long and very narrow leaves with long-tapering bases.

Cephaelis oleandrella, sp. nov.—Frutex 2.5 m. altus, ramulis gracillimis teretibus laevibus viridibus glabris, internodiis brevibus vel elongatis; stipulae in vaginam 1-3 mm. longam adpressam truncatam glabram connatae, vagina in lobos 2 subulatos vel setiformes 1-2 mm. longos desinente; folia opposita, petiolo gracili glabro 2-4 mm. longo; lamina papyracea lineari-oblonga vel anguste lanceolato-oblonga, 4-8.5 cm. longa, 1-1.3 cm lata, saepe subfalcata, longissime et anguste acuminata, basi attenuata, supra glabra, costa prominente, nervis obscuris, subtus pallida, lucida, costa gracili utroque latere membrana hyalina 0.3 mm. lata pallida saepius ciliata marginata, nervis lateralibus numerosissimis, obscuris, angulo recto divaricatis, parallelis, marginem attingentibus; pedunculi terminales 2.5-3.5 cm. longi, graciles, glabri, apice incrassati; capitula solitaria 7-9 mm. lata; bracteae exteriores late ovatae 6-7 mm. longae, acuminatae, ochroleucae, rigidae, adpressae, ciliolatae, interiores breviores et angustiores; flores pauci, conferti, sessiles; calyx 2-3 mm. longus 5-lobus, lobis angustis acuminatis ciliatis; corolla ochroleuca tubulosa, extus glabra, 9 mm. longa, tubo apice 2.5 mm. lato, lobis triangularibus acutis 2 mm. longis.—Peru: On montaña slope, La Merced, alt. 1,200 m., August 27 to September 1, 1923, *J. Francis Macbride 5635* (Herb. Field Mus. No. 536,673, type; duplicate in U. S. Nat. Herb.). Chanchamayo Valley, Dept. Junín, *Schunke 410*.

The species is noteworthy for its very narrow leaves, which have a curious, ribbon-like and usually short-ciliate membrane bordering the costa beneath for its whole length.

Cephaelis surinamensis, sp. nov.—Ramuli graciles, teretes, ochracei, dense pilis mollibus c. 2 mm. longis pilosi, internodiis 3-5 cm. longis; stipulae in vaginam villosam 2 mm. longam connatae, vagina in lacinias 2 lineares pilosas 2.5-3 mm. longas desinente; folia opposita, petiolo gracili 4-5 mm. longo dense et longe piloso; lamina ovata, 2.5-4 cm. longa, 1.4-2 cm. lata, versus apicem acutam angustata, basi late rotundata vel subcordata, membranacea, supra viridis, pilis longis debilibus patentibus sat dense pilosa, nervis prominulis, subtus ut videtur purpurascens, ad nervos longe pilosa, costa gracili elevata, nervis lateralibus utroque latere c. 10, prominentibus, angulo acuto adscendentibus, fere rectis, remote a margine conjunctis, nervulis prominentibus laxe reticulatis; capitula terminalia vel pseudo-axillaria, solitaria, 1.5 cm. longe pedunculata, dense multiflora, pedunculo gracili dense longipiloso; bracteae lanceolatae vel anguste ovatae, virides, 5-8 mm. longae, utrinque longipilosae, attenuato-acuminatae; calyx fere ad basin 5-partitus, laciniis setaceis pilosis; corolla 8 mm. longa infundibuliformis, extus sparse breviterque pilosa, tubo superne ampliato, limbo c. 7 mm. lato intus glabro, lobis lanceolato-oblongis acutis.—Surinam: Without definite locality, *A. Kappler*, ed. R. F. Hohenacker, 1845 (Herb. Stockholm, type). Ad fl. Marowyne mediam in silvis, *Kappler 1982* (Stockholm).

The plant closely resembles in general appearance **C. horridula** (Muell. Arg.) Standl. (*Psychotria horridula* Muell. Arg. in Mart. Fl. Bras. 6^5: 344. *pl. 53, f. 2.* 1881) of Brazil, but in the latter the outer bracts are much larger and the leaves are narrower and either obtuse or acute at base.

Cephaelis spathicalyx (Muell. Arg.), comb. nov. *Psychotria spathicalyx* Muell. Arg. in Mart. Fl. Bras. 6^5: 319. 1881.

Cephaelis multiplex (Muell. Arg.), comb. nov. *Psychotria multiplex* Muell. Arg. in Mart. Fl. Bras. 6^5: 319. 1881.

Cephaelis guianensis (Aubl.), comb. nov. *Carapichea guianensis* Aubl. Pl. Guian. 1: 168. *pl. 64.* 1775. *Uragoga guianensis* Pulle, Enum. Pl. Surin. 446. 1906.

Cephaelis Kappleri (Miq.), comb. nov. *Carapichea Kappleri* Miq. Stirp. Surin. 181. 1850. *Uragoga Kappleri* Pulle, Enum Pl. Surin. 446. 1906.

Cephaelis domingensis (Urban), comb. nov. *Uragoga domingensis* Urban, Repert. Sp. Nov. 17: 7. 1921.

Cephaelis domingensis var. **Fuertesii** (Urban), comb. nov. *Uragoga domingensis* var. *Fuertesii* Urban, Repert. Sp. Nov. 17: 8. 1921.

Cephaelis silvicola (Krause), comb. nov. *Uragoga silvicola* Krause, Verh. Bot. Ver. Brandenb. 50: 115. 1908.

Cephaelis phyllocalymma (Muell. Arg.), comb. nov. *Psychotria phyllocalymma* Muell. Arg. in Mart. Fl. Bras. 6^5: 373. 1881.

Palicourea longistipula, sp. nov.—Ramuli crassi subteretes glabri, novellis interdum bifariam pilosulis, internodiis elongatis; stipulae magnae, persistentes, 2-3.5 cm. longae, bifidae, glabrae, laciniis semiovatis acuminatis fuscis; folia opposita, petiolo crasso 6-12 mm. longo glabro; lamina coriacea, elliptica vel oblongo-elliptica, 11-18 cm. longa, 4-9 cm. lata, longe et angustissime acuminata, acumine sensim attenuato, basi acuta, supra luteo-viridis, sparse scaberula, asperula, nervis prominentibus, subtus fere concolor, praesertim ad costam validam elevatam et ad nervos hispidula, nervis lateralibus utroque latere c. 13, gracilibus, prominentibus, angulo acuto adscendentibus, valde arcuatis, in marginem desinentibus, nervulis prominentibus arcte reticulatis; inflorescentia thyrsoideo-paniculata, pedunculata, parte visa (a ramo disjuncta) 5 cm. longa et 3 cm. lata, dense multiflora, ramis suboppositis brevibus adscendentibus hispidulis, floribus sessilibus dense congestis, bracteis anguste linearibus 5-8 mm. longis sparse puberulis vel fere glabris; hypanthium obovoideum 0.8 mm. longum sparse puberulum vel glabratum; calyx glabratus 0.5 mm. longus, laciniis lanceolato-oblongis acutis; corolla 5-6 mm. longa, extus sparse puberula vel glabrata, fauce barbata, tubo basi paullo ampliato gracili, lobis oblongis 2 mm. longis obtusis.—Peru: Tatanara, August, 1854, *Lechler 2622* (Herb. Kew., type).

Related to *P. Macbridei* Standl., but differing in the smaller stipules, fewer lateral nerves of the leaves, and much narrower bracts of the inflorescence.

Palicourea levis, sp. nov.—Arbor 6-metralis vel frutex 2-3-metralis, ramis gracilibus olivaceis, novellis glabris vel minutissime puberulis, internodiis 1-4.5 cm. longis; stipulae persistentes, glabrae, in vaginam truncatam 1.5-2.5 mm. longam connatae, vagina in lobos 2 anguste triangulares vel late lineares 1.5-2 mm. longos desinente; folia opposita, petiolo crassiusculo 7-15 mm. longo glabro supra sulcato; lamina oblonga vel elliptico-oblonga, 5.5-11 cm. longa, 2-4 cm. lata, acuta vel breviter acuminata, acumine angusto acuto, basi obtusa vel saepe abrupte breviterque contracta, crasse membranacea, utrinque glabra vel subtus in axillis costarum secundariarum minute et sparse barbata, supra viridis, costa paullo elevata, nervis non elevatis, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere 10-14, prominentibus, angulo lato vel angusto adscendentibus, arcuatis, juxta marginem conjunctis, nervulis prominulis laxe reticulatis; inflorescentiae terminales, parvae, dense multiflorae, 2-3.5 cm. longe pedunculatae vel rarius sessiles, thyrsoideo-paniculatae, 3-7 cm. longae et fere aequilatae, ramis brevibus patentibus

vel adscendentibus minute puberulis vel hirtellis oppositis, floribus sessilibus congestis, bracteis linearibus vel subulatis 1-4 mm. longis; hypanthium minutissime puberulum; calyx c. 0.6 mm. longus, minute puberulus, dentibus 5 late ovatis obtusis vel acutiusculis; corolla parva, alba vel lutescens, extus minute scaberulo-puberula, in alabastro apice obtuso pentagona, 5-6 mm. longa, tubo superne paullo dilatato, basi subampliato, lobis late ovatis obtusis tubo triplo brevioribus; antherae interdum exsertae; fructus didymo-globosus, 6 mm. latus, fere 5 mm. altus, glaber, laevis, calyce persistente coronatus.—Peru: Summit of Mt. Guayrapurina, region of Tarapoto, July, 1855, *R. Spruce 4062* (Herb. Kew., type). Huaycani, alt. 3,000-3,300 m., May, 1866, *Pearce* (K). Ecuador: In Andibus Ecuadorensibus, 1857-59, *Spruce* (K). Pichincha, *Jameson* (K). Tungurahua, *Spruce* (K).

It is not certain that all the specimens cited are conspecific, but certainly they are closely related. They represent a species near *P. Seemannii* Standl., but in the latter the corolla is glabrous and the leaves are pilose beneath along the nerves.

Palicourea Kanehirae, sp. nov.—Arbor parva, ramulis crassis obtuse tetragonis, dense pilis longis gracilibus ochraceis pilosis, internodiis elongatis; stipulae maximae, oblongae, 2.5-3.8 cm. longae, tenues, ferrugineae, extus dense pilosae, apice breviter bilobae, lobis oblongo-ovatis acutis; folia opposita, petiolo crasso 0.8-1.5 cm. longo; lamina late elliptica vel rotundato-obovata, 14-21 cm. longa, 9-12 cm. lata, apice rotundata et breviter cuspidato-acuminata, acumine 1-1.5 cm. longo attenuato, basi paullo angustata et obtusa, subcoriacea, supra fusco-viridis, praesertim ad nervos hispidula vel glabrata, nervis manifestis, nervulis impressis, subtus brunnescens, ubique dense breviterque hirsuta, ad costam pilis longis pallidis dense hirsuta, costa valida elevata, nervis lateralibus utroque latere c. 19, gracilibus, prominentibus, angulo fere recto adscendentibus, valde arcuatis, marginem attingentibus; inflorescentia 5-6 cm. longe pedunculata, pyramidali-paniculata, dense multiflora, 9-11 cm. longa, 7-9 cm. lata, rhachi crassa angulata, ramulis divaricatis vel adscendentibus rigidis dense pilosis; bracteae lineari-subulatae 3-12 mm. longae pilosulae; flores cymosi pedicellati, pedicellis erectis validis 3-6 mm. longis; hypanthium late turbinatum, 1.2 mm. longum, dense hispidulum; calyx 2.5-3.5 mm. longus profunde 5-lobus, lobis oblongis vel ovatis, inaequalibus, obtusis vel subacutis, sparse pilosulis, ciliolatis; corolla tubulosa 9 mm. longa, extus sparse pilosula, tubo crasso, basi vix ampliato, superne paullo dilatato, fauce 2.5 mm. lato, lobis ovato-oblongis obtusis apice breviter cucullatis.—Peru: Pampayacu, January 30, 1927, *Ryozo Kanehira 18* (Gray Herb., type).

The species is a striking one, notable for the large stipules and broad, copiously pubescent leaves. It is not closely related to any other with which I am familiar.

Palicourea Macbridei, sp. nov.—Frutex vel arbor parva, ramulis crassis glabris; stipulae magnae, 2-3.5 cm. longae, ovatae, acuminatae, basi cordatae et amplectentes, tenues, venosae, ferrugineae, persistentes, internodos fere occultantes; folia opposita, petiolo crasso 1.5-3 cm. longo glabro; lamina subcoriacea, elliptica vel elliptico-oblonga, 16-32 cm. longa, 5.5-14 cm. lata, abrupte breviterque acuminata, acumine triangulari attenuato, basi cuneato-acuta, supra viridis, glabra vel ad costam sparse puberula, nervis prominulis, subtus ferruginea, ad nervos breviter hirsuta, costa valida elevata, nervis lateralibus utroque latere c. 20, elevatis, gracilibus, angulo lato adscendentibus, arcuatis, marginem attingentibus; inflorescentiae 2-4 cm. longe pedunculatae, thyrsoideo-paniculatae, dense multiflorae, c. 8 cm. longae et 7 cm. latae, rhachi crassissima angulata, ramulis validis divaricatis sparse pilosulis vel fere glabris; bracteae ovatae vel oblongae, 2-6 mm. longae, obtusae vel acutae, glabrae; flores cymosi sessiles vel 1-3 mm. longe pedicellati; hypanthium late turbinatum 1.5 mm. longum glabrum; calyx 2 mm. longus profunde 5-lobus, lobis ovato-oblongis, obtusis vel acutis, glabris; fructus globosus 5 mm. longus, glaber, sulcatus, calyce persistente coronatus, costis obtusis.—Peru: In rain forest, Cushi, alt. 1,500 m., June 19-23, 1923, *J. Francis Macbride 4821* (Herb. Field Mus. No. 535,858, type; duplicate in U. S. Nat. Herb.).

The collector's notes state that the flowers are metallic purple. This probably relates to the whole inflorescence, since no corollas are present on the specimens. Among the Peruvian species of the genus, *Palicourea Macbridei* is easily recognized by the form and exaggerated size of the stipules.

Palicourea Lechleri, sp. nov.—Frutex ramulis crassis subteretibus, vetustioribus ochraceis, novellis densissime pilis brevibus patentibus luteis hispidulis, internodiis plerumque 1-2 cm. longis; stipulae in vaginam hispidulam 1-2 mm. longam connatae, vagina in lobos 4 lineares ciliatos desinente; folia opposita, petiolo crassiusculo 1.5-2 mm. longo luteo-hispidulo; lamina coriacea elliptico-oblonga vel ovato-oblonga, 3-5 cm. longa, 1.5-2 cm. lata, longiacuminata, acumine angusto attenuato, basi acuta vel obtusa, supra minute et densissime scaberula, secus costam prominentem hispidula, nervis obscuris, subtus luteo-viridis, dense pilis brevibus patentibus luteis hispidula, costa valida elevata, nervis lateralibus utroque latere c. 8, elevatis, validis, angulo acuto adscendentibus, arcuatis, marginem saepe revolutum fere attingentibus; inflorescentia terminalis sessilis vel 1-1.4 cm. longe pedunculata, cymoso-corymbosa, dense pauciflora, 1.5-2 cm. longa et lata, basi plerumque trichotoma, pedunculo crasso dense hispidulo, ramis adscendentibus vel suberectis luteo-hispidulis, floribus sessilibus vel subessilibus; bracteae linearisubulatae, 1.5-4.5 mm. longae, attenuatae; hypanthium hispidulum; calyx 1 mm. longus, lobis oblongis obtusis hispidulis; fructus subglobosus, glabratus, 3-3.5 mm. longus, fere laevis.—Peru: Tatanara, August, 1854, *Lechler 2610* (Herb. Kew., type).

The species is distinguished by the thick and very small leaves with distinctive pubescence.

Palicourea Herrerae, sp. nov.—Frutex vel arbor parva, ramulis gracilibus subteretibus viridibus breviter hispidulis, internodiis brevibus; stipulae in vaginam 2-3 mm. longam puberulam truncatam connatae, vagina in lobos 4 dentiformes c. 1 mm. longos anguste triangulares acutiusculos desinente; folia opposita, petiolo gracili 2-6 mm. longo pilosulo; lamina elliptico-oblonga, 4.5-6 cm. longa, 1-2 cm. lata, longe angusteque acuminata, acumine obtuso, basi acuta, crasse papyracea, supra viridis, scabra, nervis manifestis sed vix elevatis, subtus pallide viridis, ubique pilis albidis hispidula, costa gracili elevata, nervis lateralibus utroque latere c. 11, gracilibus, prominulis, angulo lato adscendentibus, arcuatis, marginem attingentibus, nervulis manifestis; inflorescentia 3-4 cm. longe pedunculata, dense pauciflora, 1-2 cm. longa et lata, cymoso-paniculata, pedunculo gracillimo, ramulis brevissimis adscendentibus hispidulis; bracteae subulatae 3-7 mm. longae hispidulae; flores conferti sessiles vel subsessiles; hypanthium turbinatum 1.2 mm. longum hispidulum; calyx 2 mm. longus 5-partitus, lobis lanceolato-oblongis acuminatis puberulis; corolla purpurea tubulosa 10 mm. longa, extus hispidula, tubo basi paullo ampliato, fauce 2 mm. lato, lobis 1.5 mm. longis ovali-ovatis obtusis; antherae semiexsertae; stylus corollam aequans, minutissime puberulus; fructus globoso-ovoideus 5 mm. longus sparse pilosus, calyce persistente coronatus.—Peru: Pillahuata, Cerro de Cusilluyoc, Dept. Cuzco, alt. 2,800-3,100 m., May 3-6, 1925, *Francis W. Pennell 14130* (Herb. Field Mus. No. 558,338, type).

A well-marked species because of the small, abundantly pubescent leaves and small, long-pedunculate inflorescences. It is named for Professor Fortunato L. Herrera, who has collected so diligently in the Department of Cuzco.

Palicourea consobrina, sp. nov.—Frutex, ramulis gracilibus teretibus viridibus glabris, internodiis elongatis; stipulae in vaginam adpressam 2-3 mm. longam glabram connatae, vagina in lobos 4 approximatos lineares 0.8-1.5 mm. longos erectos desinente; folia opposita, petiolo gracili 3-6 mm. longo minute adpresso-pilosulo; lamina elliptico-oblonga vel lanceolato-oblonga, 3.5-6 cm. longa, 1-2 cm lata, longe angusteque acuminata, acumine obtuso, basi acuta, crasse papyracea, marginata, supra viridis, minute scaberula, nervis manifestis sed vix prominentibus, subtus pallide viridis, praesertim ad nervos minute adpresso-pilosula, ad costam sparse hirtella, costa gracili elevata, nervis lateralibus utroque latere c. 11, gracillimis, prominulis, angulo lato adscendentibus, marginem attingentibus; inflorescentia rubra graciliter pedunculata, dense pauciflora, 1-1.5 cm. longa et lata, pedunculo 2 cm. longo glabro; bracteae oblongae vel lineares, 3-6 mm. longae, acutae vel obtusae, glabrae, infimis interdum foliaceis et viridibus; flores conferti pedicellati, pedicellis

gracilibus plerumque 2-5 mm. longis glabris; hypanthium cylindrico-turbinatum 1 mm. longum glabrum; calyx 5-partitus, laciniis oblongo-linearibus 3.5-4.5 mm. longis, obtusis vel acutiusculis, glabris; corolla (perfecta non visa) purpurea tubulosa 9 mm. longa, extus glabra; antherae lineares 2 mm. longae.—Peru: In forest, Pillahuata, Cerro de Cusilluyoc, Dept. Cuzco, alt. 2,200-2,400 m., May 3-6, 1925, *Francis W. Pennell 13988* (Herb. Field Mus. No. 558,230, type).

It is somewhat remarkable that there should occur at this locality the three species here described—*P. consobrina*, *P. Herrerae*, and *P. saligna*—all of which are much alike in general appearance and evidently nearly related. They seem to be quite distinct, however. *P. consobrina* is almost exactly like *P. Herrerae* in aspect, particularly in the form of the leaves and inflorescence, but the two plants differ materially in the nature of the pubescence and in details of the flowers.

Palicourea saligna, sp. nov.—Frutex vel arbor parva omnino glabra, ramulis gracillimis subteretibus, vetustioribus ochraceis, internodiis brevibus vel elongatis; stipulae in vaginam latam 1-1.5 mm. longam viridem truncatam connatae, vagina in dentes 4 remotos triangulares acutos 0.6 mm. longos desinente; folia opposita, petiolo gracili 4-9 mm. longo; lamina lanceolata crasse papyracea, 3-6.3 cm. longa, 0.8-1.8 cm. lata, longe angusteque attenuato-acuminata, acumine obtuso, basi acuta, marginata, supra lutescenti-viridis, nervis subimpressis, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere c. 8, gracilibus, prominentibus, angulo lato adscendentibus, marginem attingentibus; inflorescentia 4-4.5 cm. longe pedunculata, corymbiformi-paniculata, laxe pauciflora, basi trichotoma, pedunculo gracillimo, ramulis gracilibus curvo-adscendentibus; bracteae lineari-subulatae 2-7 mm. longae; flores sparsi pedicellati, pedicellis 1.5-6 mm. longis rectis; hypanthium anguste cylindricum 1 mm. longum; calyx fere 1 mm. longus 5-lobus, lobis inaequalibus rotundato-ovatis apiculatis; fructus immaturus anguste ovoideus 5 mm. longus.—Peru: In forest below Pillahuata, Cerro de Cusilluyoc, Dept. Cuzco, alt. 2,200-2,400 m., May 3-6, 1925, *Francis W. Pennell 13978* (U. S. Nat. Herb. No. 1,340,696, type).

The collector's notes describe the corolla as yellow, but no corollas are present on the type specimen.

Psychotria abdita, sp. nov.—Arbor 6-metralis ramosa, ramulis gracilibus subteretibus brunneis glabris, internodiis elongatis; stipulae 2-3 cm. longae, omnino connatae, calyptriformes, 3-4 mm. latae, ferrugineae, glabrae; folia petiolata opposita, petiolo gracili 1-2.5 cm. longo glabro; lamina crasse chartacea, elliptico-oblonga, anguste oblonga vel oblanceolato-oblonga, 13-24 cm. longa, 2.5-9 cm. lata,

longe acuminata, acumine angusto attenuato acuto, basin versus longe sensimque angustata, glabra, supra viridis, nervis non elevatis, subtus paullo pallidior, brunnescens, costa gracili elevata, nervis lateralibus utroque latere 12-16, gracilibus, prominentibus, subarcuatis, angulo lato adscendentibus, prope marginem conjunctis, nervulis obscuris laxissime reticulatis; inflorescentiae terminales vel pseudo-axillares, sessiles, late cymoso-paniculatae, c. 5 cm. longae et 6-8 cm. latae, dense multiflorae, ante anthesin bractea calyptriformi albida (in sicco ferruginea) 2 cm. longa glabra apice in caudam subulatam 13 mm. longam desinente inclusae, basi trichotomae, ramis divaricatis vel angulo lato adscendentibus, validis, minutissime puberulis, floribus ad apices ramulorum dense congestis sessilibus vel 1-2 mm. longe pedicellatis, bracteis minutis deciduis; hypanthium late turbinatum glabrum 1 mm. longum; calyx glaber 0.7 mm. longus truncatus; corolla alba in alabastro 1.5 mm. longa, extus glabra, apice rotundata.—Peru: In sylvis ad pedem montis Campana, prope Tarapoto, December, 1855, *R. Spruce 4351* (Herb. Kew., type).

The species is well marked by the peculiar stipules and by the long-beaked bract enveloping the young panicle.

Psychotria Tessmannii, sp. nov.—Rami graciles teretes fusco-brunnei, novellis glabris, internodiis 3.5-11 cm. longis; stipulae persistentes, in vaginam truncatam 2.5-3 mm. longam glabram connatae, vagina in aristas 2 subulatas 6-8 mm. longas glabras desinente; folia opposita, petiolo gracili, 4-10 mm. longo, supra sulcato, glabro vel sparse et minute puberulo; lamina elliptica vel oblongo-elliptica, 7-14.5 cm. longa, 2.5-6 cm. lata, abrupte acuminata vel longiacuminata, acumine falcato angusto acuto, basi acuta vel abrupte contracta et breviter decurrens, rigide membranacea, utrinque lucidula, supra fusca, glabra, nervis parum prominentibus, subtus vix pallidior, ad nervos sparse et minutissime puberula, costa gracili elevata, nervis lateralibus utroque latere c. 11, angulo acuto adscendentibus, gracilibus, prominentibus, arcuatis, marginem attingentibus, nervulis prominulis flexuosis et subparallelis; inflorescentia terminalis, 2-3 cm. longe pedunculata, angustissime paniculata, racemiformis, 6-8 cm. longa, c. 1.5 cm. lata, sublaxa, multiflora, floribus cymosis sessilibus, cymulis pedunculatis densis plurifloris, rhachi sparse et minutissime puberula, ramulis primariis divaricatis, bracteis linearibus vel lanceolatis usque ad 1.5 mm. longis; hypanthium vix 0.5 mm. longum fere glabrum; calyx brevissimus obsolete et obtuse dentatus; corolla infundibuliformis, extus obscure et sparsissime puberula vel fere glabra, tubo 2.5 mm. longo superne sensim ampliato, lobis 4 oblongis obtusis c. 1 mm. longis; stylus longe exsertus.—Peru: Stromgebiet des Ucayali von 10° S. bis zur Mündung, in 1923, *G. Tessmann 3014* (Herb. Stockholm, type). Forest at base of Mt. Campana, December, 1855, *Spruce 4383* (Kew).

The species is well characterized by its exceptionally long and narrow inflorescence, recalling that of certain Mexican species of *Rondeletia*.

Psychotria retifera, sp. nov.—Ramuli crassi subteretes dense foliati, novellis pallide tomentellis, vetustioribus cortice ochraceo suberoso obtectis, internodiis 0.5-1 cm. longis; stipulae 2-3 mm. longae, connatae, puberulae, brevissime bilobae, lobis rotundatis; folia opposita, petiolo crasso 2-4 mm. longo minute puberulo vel glabrato; lamina crasse coriacea, elliptica vel late elliptica, 3-5.5 cm. longa, 1.7-3 cm. lata, acuta, basi rotundata vel obtusa, scaberulo-marginata, ciliata, supra viridis, lucida, costa ciliolata, nervis subimpressis, subtus brunnescens, glabra, costa valida elevata, nervis lateralibus utroque latere c. 20, angulo lato divergentibus, gracilibus, elevatis, infimis fere rectis, superioribus arcuatis, marginem attingentibus, nervulis prominulis arcte reticulatis; inflorescentiae terminales 2-3 cm. longe pedunculatae, thyrsoideo-paniculatae, 1-3 cm. longae, 1-1.5 cm. latae, dense multiflorae, pedunculo valido dense puberulo, ramis primariis brevissimis adscendentibus dense puberulis, floribus sessilibus vel subsessilibus dense confertis; hypanthium tomentellum, calyce subtruncato sparse tomentello; corolla in alabastro 5 mm. longa extus tomentella; fructus subglobosus 8 mm. longus glabratus, subacute costatus.—Peru: Between Huánuco and Pampayacu, January 13, 1927, *Ryozo Kanehira 247* (Herb. Field Mus. No. 580,089, type).

In the specimens available the inflorescence is so molded that it is impossible to determine the floral characters satisfactorily. The generic position of the plant is, therefore, somewhat uncertain, and it is possible that the species should be referred rather to *Palicourea*. The plant is clearly distinct from the other Palicoureas and Psychotrias known from Peru. It is noteworthy because of the small, thick, very broad, beautifully veined leaves.

Psychotria Mathewsii, sp. nov.—Ramuli validi subteretes, glabri vel novelli praesertim prope nodos dense et minute puberuli, internodiis elongatis; stipulae caducae, breviter connatae, ovales vel late ovatae, 1.5-2 cm. longae, prope basin crassae, superne tenuiores, apice rotundatae, brunnescentes, glabrae; folia brevissime petiolata opposita, petiolo usque ad 6 mm. longo, saepe fere nullo, minute puberulo vel glabrato, crasso; lamina papyracea, obovato-oblonga vel oblongo-elliptica, 14-27 cm. longa, 6-10.5 cm. lata, acuta vel breviter acuminata, versus basin longe sensimque angustata, basi ipsa interdum obscure auriculata, supra fusca, glabra, nervis non elevatis, subtus pallidior, glabra vel ad nervos minutissime puberula, costa crassiuscula elevata, nervis lateralibus utroque latere c. 15, prominentibus, gracilibus, angulo lato interdum fere recto adscendentibus, leviter arcuatis, juxta marginem conjunctis, nervulis obscuris laxe reticulatis; inflorescentia terminalis plerumque 1.5-2.5 cm. longe pedunculata, late cymoso-paniculata, dense multiflora, ramis verticillatis late adscendentibus gracilibus minute puberulis, floribus ad apices ramulorum dense capitato-congestis sessilibus, bracteis inconspicuis, deciduis vel subpersistentibus, plerumque late ovatis et

1-2 mm. longis, tenuibus; hypanthium late turbinatum vix 0.5 mm. longum minute puberulum; calyx 0.5 mm. longus, minutissime puberulus, truncatus vel obsolete denticulatus; corolla extus minutissime puberula, tubo late obconico fere 2 mm. longo, ore non barbato, lobis 4 patentibus vel recurvis oblongo-triangularibus obtusis fere 1 mm. longis; antherae exsertae 0.7 mm. longae.—Peru: Moyobamba, in 1835, *Mathews 1491* (Herb. Kew., type). Near Tarapoto, November, 1856, *Spruce 4203* (K).

This plant is closely related to *P. pallescens* (Rusby) Standl., but differs in its larger stipules and denser, more congested inflorescence.

Psychotria crebrinervia, sp. nov.—Frutex vel arbor 3-4.5 m. alta, ramulis gracilibus, viridibus, subteretibus, puberulis vel minute pilosulis vel glabratis, internodiis brevibus vel elongatis; stipulae persistentes, virides, in vaginam truncatam puberulam 1 mm. longam connatae, in lacinias vel aristas 2 lineares 1.5-3 mm. longas erectas desinentes; folia opposita, petiolo gracili, 1-6 cm. longo, puberulo vel pilosiusculo; lamina membranacea, lanceolato-oblonga vel elliptico-oblonga, 10-21 cm. longa, 3.5-9.5 cm. lata, longe et abrupte sensimve acuminata, basin versus attenuata, supra viridis, glabra, minute puncticulata, nervis non elevatis, subtus paullo pallidior, praesertim ad nervos minutissime puberula vel scaberula, ad nervos interdum breviter pilosiuscula, costa gracili elevata, nervis lateralibus utroque latere 15-19, gracillimis, prominentibus, angulo acuto adscendentibus, leviter arcuatis, prope marginem irregulariter conjunctis, nervulis non elevatis laxe reticulatis; inflorescentiae terminales vel pseudo-axillares, cymoso-paniculatae, 5-7 cm. longe pedunculatae, ramosissimae, dense multiflorae, 4-12 cm. longae, 6-12 cm. latae, basi trichotomae, ramulis divaricatis vel interdum subreflexis, gracilibus, breviter pilosulis, bracteis linearibus vel ovatis, viridibus, 2-5 mm. longis, obtusis vel acutiusculis, puberulis vel fere glabris, saepe deciduis, floribus sessilibus et saepe secundis; calyx vix 1 mm. longus, 5-dentatus, dentibus ovato-triangularibus obtusis; fructus globosus, c. 3 mm. longus, glaber, niger, lucidus, pyrenis dorso costulatis.—Honduras: In wet forest, hills near Lancetilla Valley, Dept. Atlántida, alt. 200 meters, January 31, 1928, *Paul C. Standley 55286* (Herb. Field Mus. No. 584,201, type.) Lancetilla Valley, *Standley 53097, 53222, 56888*. Guatemala: Sierra del Mico, alt. 600 m., February, 1908, *Kellerman 7536*. British Honduras: Big Creek, *W. A. Schipp 170*.

The plant is a small tree with spreading crown, and with conspicuously brittle branches. It is frequent in the forest about Lancetilla. The species may be recognized by the large, thin, narrow leaves with numerous lateral veins, and by the large, sometimes recurved inflorescence, with very numerous flowers which are inclined to be secund.

Psychotria simiarum, sp. nov.—Frutex vel arbor 1.5-7.5 m. alta, ramulis gracilibus, viridibus, glabris, internodiis brevibus vel elongatis; stipulae virides, persistentes, 1-2 mm. longae, connatae, apice minute bidentatae; folia opposita, petiolo gracili, 8-23 mm. longa, glabro; lamina membranacea, elliptica vel oblongo-elliptica, 8-16 cm. longa, 2.5-7 cm. lata, apice abrupte longiacuminata, acumine angusto attenuato, apice obtuso, basi acuta, glabra, supra viridis, nervis non elevatis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere 6-7, angulo acuto adscendentibus, gracilibus, arcuatis, prominentibus, prope marginem conjunctis, nervulis paucis, prominulis, laxe reticulatis; inflorescentiae terminales, 2-2.7 cm. longe pedunculatae, cymoso-paniculatae, dense multiflorae, c. 2 cm. longae et 2.5 cm. latae, ramulis brevibus oppositis vel infimis radiatis, minutissime puberulis, bracteis lanceolato-subulatis minutis, floribus sessilibus vel brevissime pedicellatis; hypanthium obovoideo-cylindricum, 0.8 mm. longum, fere glabrum; calyx 0.6-0.8 mm. longus, pruinoso-puberulus, breviter dentatus, dentibus conspicue inaequalibus, triangularibus vel late ovatis, obtusis vel acutis, viridibus; corolla ochroleuca, viridescens, in alabastro 2-2.5 mm. longa, extus minute pruinoso-puberula, lobis oblongis obtusis tubum fere aequantibus; fructus subglobosus, caeruleus, glaber, 5-6 mm. longus, pyrenis obscure costatis, facie ventrali anguste sulcatis.—Honduras: In wet forest near the summits of the hills above Lancetilla Valley, Dept. Atlántida, alt. 600 m., March 13, 1928, *Paul C. Standley 56772* (Herb. Field Mus. No. 581,799, type). Lancetilla Valley, *Standley 52623, 52897, 54639.*

A close relative of *Psychotria pubescens* Sw., but in that the leaves are pubescent beneath, rather than glabrous, and have more numerous lateral veins.

Ixora Gleasonii, sp. nov.—Arbor 6-metralis, ramulis crassiusculis subteretibus brunnescentibus, glabris, internodiis elongatis; stipulae erectae persistentes rotundatae, apice breviter aristato-mucronatae, crassae, glabrae; folia opposita, petiolo crasso glabro 12-16 mm. longo supra sulcato; lamina oblonga vel elliptico-oblonga 14-21 cm. longa, 6-8 cm. lata, apice abrupte breviterque acuminata, acumine acuto, basi acutiuscula vel abrupte contracta et decurrens, subcoriacea, glabra, costa crassa, nervis lateralibus utroque latere c. 15, angulo lato divergentibus, leviter arcuatis, prope marginem conjunctis; inflorescentia terminalis cymoso-corymbosa, sessilis, trichotoma, 8.5 cm. longa, 16 cm. lata, dense multiflora, ramulis sparse minuteque puberulis, bracteis triangularibus acutis 1.5-3 mm. longis, pedicellis 1-2 mm. longis puberulis; hypanthium puberulum 1 mm. longum; calyx ad medium 4-lobus, lobis late ovatis obtusis ciliolatis et extus puberulis; corolla extus minute puberula, tubo gracillimo 3 cm. longo 0.7 mm. lato, superne non dilatato, lobis 4 patulis vel reflexis ovalibus 4-5 mm. longis apice rotundatis et interdum apiculatis; antherae exsertae oblongae 2 mm. longae; stylus breviter exsertus, stigmatibus 1.2 mm. longis.—British Guiana: Dense upland forest, Butukari,

July 20-21, 1921, *H. A. Gleason 710* (U. S. Nat. Herb. No. 1,122,956, type.)

Ixora macrophylla Benth. and *I. laxiflora* Benth., both of which were described from British Guiana, have a much shorter corolla tube than the plant here described.

Morinda mesochora, sp. nov.—Frutex 2-2.5 m. altus, ramulis gracilibus, teretibus, glabris vel sparse et minutissime puberulis, internodiis elongatis; stipulae persistentes, 2-2.5 mm. longae, deltoideae, acutae vel subacuminatae, minute puberulae vel glabrae; folia opposita, petiolo 3-5 mm. longo, gracili, glabro vel minute puberulo; lamina elliptico-oblonga vel rarius obovato-oblonga, saepe in parte media latissima, abrupte acuminata, acumine anguste triangulari, interdum subfalcato, basi acuta vel interdum basin versus angustata, papyracea, glabra, supra viridis, sublucida, costa et nervis prominulis, subtus vix pallidior, costa gracili, elevata, nervis lateralibus utroque latere c. 8, gracilibus, prominulis, angulo latiusculo adscendentibus, arcuatis, inaequalibus, prope marginem irregulariter conjunctis, nervulis inconspicuis, laxe reticulatis; inflorescentiae capitatae, in axillis solitariae, 1-2.2 cm. longe pedunculatae, pedunculis gracillimis, glabris vel minute puberulis, capitulis paucifloris, floribus sessilibus, congestis; hypanthium cylindricum, 2 mm. longum, calyx cupularis, 1 mm. longus, truncatus; corolla extus glabra, tubo gracili, 6 mm. longo, lobis lineari-lanceolatis, 6 mm. longis; fructus 5-6 mm. longus.—British Honduras: Honey Camp, Orange Walk, September, 1928, *C. L. Lundell 19* (Herb. Field Mus. No. 580,825, type). Guatemala: Brushy slope, Quiriguá, Dept. Izabal, May, 1922, *Standley 24529*.

The proposed species is most nearly related to *M. panamensis* Seem., which also occurs in Guatemala. The latter differs in its broader leaves, stout peduncles, and obtuse stipules. From *M. Roioc* L. the present plant is distinguished by its broader leaves and long peduncles.